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Environmental Protection Agency

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Approval and Promulgation of Implementation Plans; California—South Coast Air Basin; Ozone and Carbon Monoxide Plans; Advance Notice of Proposed Rulemaking

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[FRL-3487-1]

Approval and Promulgation of Implementation Plans; California—South Coast Air Basin; Ozone and Carbon Monoxide Plans

AGENCY: Environmental Protection Agency (EPA).

ACTION: Advance notice of proposed rulemaking.

SUMMARY: EPA today solicits comment on how it should fulfill its legal obligation to create a federal implementation plan (FIP) under the Clean Air Act to produce attainment of the national ambient air quality standards (NAAQS) for ozone and carbon monoxide in the South Coast Air Basin (Los Angeles area) of California. This notice describes in particular the choices that EPA faces in determining the date by which the FIP must bring about attainment, the statutory interpretations the Agency might make to support the different attainment date options, and the social and economic consequences of these alternatives. As it prepares a notice of proposed rulemaking to create the FIP for the South Coast, EPA intends to consider the information it receives from the public in response to today's notice.

DATE: Comments may be submitted to EPA at the address below on or before February 6, 1989.

ADDRESSES: Comments on this proposal should be sent to: Regional Administrator, Attention: Air Management Division, State Liaison Section (A-2-2), U.S. Environmental Protection Agency, 215 Fremont Street, San Francisco, California 94105.

FOR FURTHER INFORMATION CONTACT: Wallace D. Woo, Chief, State Liaison Section, Air Management Division, U.S. Environmental Protection Agency, 215 Fremont Street, San Francisco, California 94105, Telephone: (415) 974-7634, FTS: 454-7634.

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I. Executive Summary

A. Purpose of This Notice

In the course of administering the Clean Air Act, EPA often has been called upon to interpret the law where Congress has left a gap that must be filled. But few of EPA's prior determinations have been so difficult, or threatened such upheaval, as the judgment we must now make about the ozone and carbon monoxide problems in the South Coast Basin that surrounds Los Angeles.

Ozone is a pollutant with serious health effects that, as we are increasingly becoming aware, may cause permanent long-term damage if breathed at certain concentrations. The effects are unmistakable at levels commonly encountered in the Los Angeles area, which has the worst ozone problem in the United States, suffering from both the highest levels and the most frequent violations of the national ozone standard.

CO reduces the amount of oxygen delivered to all tissues of the body, and, at certain levels, poses a threat to human health. The Basin frequently violates the federal air quality standards for CO.

EPA wants to—and must—do something constructive to remedy this unacceptable public health threat. But, in its present form, the law intended to address the problem cannot deal with it effectively. This is because the last statutory deadline for a plan to meet the standard—December 31, 1987—has now passed, and Congress has given EPA no instructions as to what to do under these circumstances.

EPA has acknowledged a duty under the Clean Air Act to develop a federal implementation plan (FIP) to help the South Coast Basin attain the primary national ambient air quality (NAAQS)

standard for ozone and carbon monoxide (CO).[1] But the Act does not specify the date by which such a plan must project attainment. Since the deadline has passed, and Congress has not extended it, must an EPA plan require immediate attainment? Or should it call for attainment within a period (three to five years) analogous to the relevant previous rounds of planning required by the statute (specifically, section 110 (a) and (e), and the second round of planning for areas that received attainment date extensions from 1982 to 1987 under Section 172(a)(2))? Attainment of the ozone NAAQS appears to require, in the case of the South Coast Basin, extreme restrictions on the use of fossil fuels and the reactive hydrocarbons that are now essential components of many industrial, commercial, and consumer products and activities. It is for this reason that an immediate or a near-term attainment FIP for the South Coast, if determined to be statutorily required, would raise serious questions of enforceability and potential conflicts with other statutes. As a practical matter, immediate attainment is impossible and a five-year plan would impose requirements so draconian as to remake life in the South Coast Basin.

The South Coast authorities estimate that an 80 to 90 percent reduction in volatile organic compound ("VOC") emissions is necessary to attain the ozone standard. Thus a plan that provides for attainment in the South Coast immediately or even within five years would have to prohibit most traffic, shut down major business activity, curtail the use of important consumer goods, and dramatically restrict all aspects of social and economic life. Implementation and enforcement of such drastic measures may well be impossible, and could prevent satisfaction of the basic necessities of life—including food, shelter, and medical services. Such a plan would effectively usurp many state and local government functions and would radically restrict individual opportunity. Indeed, an immediate or a near-term attainment FIP for ozone would destroy the economy of the South Coast, so that most of the population would be forced to resettle elsewhere. Similar drastic consequences would flow from a short-term plan to attain the CO standard.

Given these consequences of short-term plans, should EPA instead allow a longer term for attainment—one that supports local efforts in making progress over a period such as the twenty years provided for in the plan under consideration by the South Coast Air Quality Management District (SCAQMD)? Such a course appeals to common sense, but is without precedent in the Act.

A long-term FIP might appear to offer a more realistic (though still exceedingly difficult) path to attainment, and would complement ongoing state and local efforts to develop a SIP. But it also raises significant issues. Such a FIP would require EPA to make difficult legislative-type decisions about the projected pace and direction of technological and life-style change, over a long period of time. A long-term plan would have more gradual and less dislocating impacts than a short-term FIP, but would still have profound implications for much of the local economy, for some national and foreign industries, and for the entire way of life in the South Coast Basin. Moreover, in either circumstance, EPA arguably must to some extent exercise legislative-type powers that, while perhaps permitted by the courts (*see Chevron, U.S.A., Inc.* v. *NRDC*, 467 U.S. 837 (1984)), are more appropriately exercised by Congress. Nonetheless, in the absence of legislative direction, EPA believes it may need to resolve several fundamental issues of legislative scope to comply with its legal obligation to develop a FIP for the South Coast.

The Agency believes that, in fulfilling this obligation, it should seek to act consistently with at least the key principles underlying the statute, while minimizing the extent to which EPA performs legislative-type decisionmaking. As discussed in detail below, this is a very difficult task. EPA officials have repeatedly urged the 100th Congress to come to grips with this issue and to amend and extend the Clean Air Act. Their failure to do so leaves EPA with no course other than to press on and try to discern, as best the Agency can, what the prior enacting Congress would have intended us to do.

Because the issues before us are of such moment and complexity, EPA wishes to explore them in a detailed and public fashion. To that end we are publishing today EPA's preliminary view of the problem it confronts, the approaches it might choose to solve that problem, and the consequences that are likely to follow from that choice.

B. Outline of Notice

The Notice begins by setting out the legislative and regulatory history of the Clean Air Act and its Amendments with respect to the control of ozone and CO, both nationally and in the South Coast Basin. This history recounts EPA's prior futile attempt to impose FIPs on the South Coast and other areas in the 1970's. It describes EPA's recent proposal on requirements for state plans in areas that, by the end of 1987, have not attained the air quality standards for these pollutants. The Notice then proceeds to identify the perplexing technical, legal, and policy questions EPA confronts in constructing a practicable and effective FIP for the South Coast. It describes the severity of pollution problems in the South Coast—with respect to ozone, plainly the worst in the Nation, and with respect to CO, one of the worst. Although air quality has improved as a result of the efforts of local governmental agencies, the ozone and CO problems have proved intractable due to the environmental consequences of economic and population growth in a geographically enclosed region. Local authorities in the South Coast have labored for years to put together an ambitious draft pollution abatement plan that is intended to provide for attainment of the standard for CO in ten years, and for attainment of the standard for ozone in twenty years. The Notice outlines the draft South Coast plan, expected to be submitted to EPA in the spring of 1989.

Next, the Notice considers the statutory provisions that define EPA's duty to promulgate a FIP. It sets forth the applicable principles of statutory interpretation that govern our reading of these provisions and their legislative history. Included among the judicial maxims that guide EPA's interpretation are: (1) Where Congressional intent is unclear, EPA must construe the statute in accordance with its terms, history, and purposes, and may reach reasonable accommodations among conflicting interests; (2) EPA should construe the statute so as to avoid absurd results and impossibility; and (3) EPA should construe the statute to avoid conflicts with other statutes.

The Notice proceeds to apply these principles in discussing three different interpretations of the post-1987 deadline for a FIP to show attainment. The alternative interpretations of the FIP deadline are: (1) Immediate attainment; (2) attainment within five years; (3) attainment over a long term, but as expeditiously as possible without causing severe economic and social disruption. The Notice describes the legal and equitable arguments for and against each alternative, and outlines the type of FIP each deadline would require.

[1] *Coalition for Clean Air* v. *EPA*, CV No. 88-4414-H. (C.D. Cal.) In an Order dated September 19, 1988, the Court affirmed that EPA has such a duty.

The Notice recognizes that each of these alternative interpretations has significant strengths and weaknesses, and that none of them presents an easy resolution of the vexing legal and environmental problems that beset the South Coast. At this point, it appears difficult to project attainment of the standards in the South Coast Basin, even under a plan stretching over twenty years, and containing measures that require some serious economic and social dislocation.

In filling the gap in the current statute, EPA must attempt to reconcile conflicting Congressional values embodied in the Clean Air Act, and each of the interpretations advanced fulfills different of these values to varying degrees. The immediate and five-year FIP interpretations—while satisfying an arguable Congressional desire for short-term attainment dates—would impose health control measures that would disrupt daily life in the South Coast beyond anything Congress might have envisioned, or that would be impossible to enforce, even with gargantuan efforts.

The longer-term FIP approach, while mitigating economic disruption by offering the possibility of more realistic and workable requirements, represents a departure from EPA's prior interpretations of the Act, and arguably puts EPA in shoes that only Congress should fill. While any significant extension of the attainment date beyond 1987 would necessarily reflect some legislative-type gap-filling by EPA, a longer-term plan might impose upon the Agency the responsibility for making especially difficult legislative choices about the direction and pace of technological, social, and economic change in the South Coast.

EPA solicits comment on how it should interpret the Clean Air Act to provide an appropriate attainment date for a FIP under the circumstances presented here. We seek comments on the legal interpretations we present, on whether EPA should explore any alternatives that it has not considered, on what EPA should conclude to be the most appropriate FIP attainment date under the current Act, and on what form the FIP should take.

II. Statutory and Regulatory Background

This section discusses the historical development of the Clean Air Act and how the South Coast has attempted to comply with its requirements. Included is a review of EPA's development of several short-term attainment FIPs in response to the Act and litigation, and the subsequent failure of these plans because of political, judicial and public opposition.

The federal government first became involved in the regulation of air pollution in 1955 with the passage of the Air Pollution Control Act, Pub. L. No. 84–159, 69 Stat. 322 (1955). This statute, as expanded in 1963 in the Clean Air Act, Pub. L. No. 88–206, 77 Stat. 392 (1963), provided technical and financial assistance to encourage the States to define and address the problem of air pollution. When the States failed to respond adequately to this encouragement, the federal government increased its role, primarily by the passage of the 1970 Clean Air Act.

A. The 1970 Clean Air Act

In 1970, Congress amended the Clean Air Act to establish a joint State and Federal program to control air pollution. New sections 109 and 110 of the statute directed EPA to establish in 1971 NAAQS for such pollutants as photochemical oxidants (currently measured as ozone and therefore referred to here as ozone) and CO, and these sections called on States to submit by early 1972 "State Implementation Plans" (SIPs), providing for attainment of those standards within nine months of promulgation of the NAAQS.

Section 110(a)(2) of the 1970 statute specifies the requirements for these initial SIPs. It directs EPA to approve a SIP within four months after its submission if, among other things, it "provides for the attainment" of the standard "as expeditiously as practicable but [subject to subsection (e)] in no case later than 3 years from the date of approval of such plan * * *." The law (section 110(a)(2)(H) also directs each State to revise its SIP whenever the Administrator finds that it is "substantially inadequate" to achieve the NAAQS or otherwise meet the requirements of the Act.

Section 110(e) permits a two-year extension of the three-year atainment period if the technology to attain within three years is not available and the State has applied "reasonably available alternative means" of attaining the standard in the interim. In the event a State fails to submit an approvable SIP or fails to submit a plan to promulgate its own implementation measures, section 110(c) directs EPA to make up this failure, by promulgating a FIP. Finally, under section 110(a)(3), a State may revise its plan at any time, but EPA may approve the change only if the SIP continues to conform to the requirements of the Act.

B. Implementation of the Act in the 1970's

1. Implementation of the Act Nationally: 1970–1977

In August 1971, EPA recognized that many States would find it extremely difficult if not impossible to attain primary standards [2] by 1975, that is, roughly within three years of the time their SIPs would be approved.[3] Accordingly, the Agency bowed to reality and granted blanket two-year extensions to all control regions that, even given the application of reasonably available technology, could not attain primary air quality standards by 1975. EPA also extended (or, as we shall see, tried to extend) another statutory deadline. Section 110(a)(1) required States to submit, by January 30, 1972, the transportation control portions of their plans for controlling ozone and CO. EPA, following the statute, required transportation control plans for all areas in which stationary source controls and federal emissions standards for new cars would not be sufficient to attain compliance by May 31, 1975. EPA proposed to move the deadline for submitting these plans from January 30, 1972 to February 1973.

EPA's efforts to read the law in the light of the real world problems of implementing it, however, were stymied in 1973, when the United States Court of Appeals for the District of Columbia Circuit held illegal EPA's grant of the one-year extension for States to submit the transportation control portions of SIPs. *See Natural Resource Defense Council* (*NRDC*) v. *EPA*, 475 F.2d 968 970–71 (D.C. Cir. 1973). The Court also ordered EPA to rescind its blanket two-year extension for NAAQS attainment. Furthermore it held that the Agency could allow additional extensions only if the requesting States had demonstrated under section 110(e) that, even given the application of reasonably available alternative technologies, they could not achieve air quality standards by 1975. *Id.* at 971. Thus, States were still required to produce SIPs showing attainment by 1975 in order to obtain an extension of the deadline to 1977. Finally the Court ordered EPA to

[2] Section 109(b)(1), 42 U.S.C. 7609(b)(1) defines the primary standards as "ambient air quality standards the attainment and maintenance of which, in the judgment of the Administrator, based upon such [air quality] criteria and allowing an adequate margin of safety, are required to protect the public health."

[3] EPA arrived at the year 1975 by adding together: nine months (after the 1971 NAAQS promulgation) in which the SIPs were to be submitted to EPA, four months for EPA to act on the SIPs, and three years from the date of approval in which to attain.

promulgate the necessary plans under section 110(c) by September 1975. The decision in *NRDC* gave EPA a broad mandate to develop transportation control programs to attain the standards by 1977.

The obstacles to the States' attainment of air pollution control deadlines soon grew even greater. Under an agreement with NRDC, in April, 1973, EPA issued ambitious guidelines regulating a broad range of non-point or "indirect" pollution sources—including not only shopping centers and highways, for example, but also residential and commercial developments. These guidelines had the attention of NRDC and ultimately the courts, which, under the language of the law, directed EPA to promulgate them. Few States followed them, however. Technical problems, political opposition, and legal difficulties compelled the Agency to narrow the scope of these guidelines and to propose its own indirect source review (ISR) program.

EPA's attempt in its own ISR program to interpret the law to make it more practicable, however, faltered once again. EPA lacked the resources necessary to implement and to enforce its ISR program. The final regulations EPA published in 1974, therefore, failed to offer the technical support necessary for carrying them out. Because it operated under short-term deadlines, the ISR Program, moreover, had to apply fairly severe remedies—and it could not wait for better ones to be developed. And so, bearing questionable environmental results, confronted by various legal challenges, and troubled by technical infeasibility, the ISR Program, for all its lofty ambitions, became the victim of the same problems that doomed the earlier ISR guidelines. Perhaps recognizing this problem, Congress, in section 110(a)(5) of the 1977 Amendments to the Clean Air Act, prohibited EPA from conducting ISR (except for federally funded projects) and allowed the states to rescind previously published proposals.

This was not the last obstacle to EPA's efforts to improve air quality. EPA's transportation control program proved no more edifying than its attempt at enforcing ISR guidelines.

In light of the *NRDC* holding, states would not be eligible even for two-year extensions under section 110(e) until they submitted plans showing attainment by 1975. States therefore submitted such plans—whether or not for *pro forma* reasons—in which they endorsed costly and possibly unworkable measures that would, colorably, attain air quality standards by the 1975 deadline. (The states might have considered that these measures, or many of them, might be rendered superfluous in any case by 1977, when the fleet of emission-controlled cars began to take over the highways and cause lower levels of ozone and CO.) Accordingly, states may have begun to write SIPs that they knew to be partly fictional in order to obtain the extensions they required to make realistic progress toward air pollution goals.

When several states, rather than submitting SIPs they knew to be unworkable, balked at submitting plans showing attainment by 1975, EPA was forced to promulgate its own transportation controls programs for them. Thus, in 1973, EPA proposed control strategies containing a combination of far-reaching measures, including parking restrictions, mandatory bus and carpool lanes, and expansion of mass transit. Some of these provisions, however, ran into insurmountable political opposition. In early 1974, for example, Congress passed a provision, ultimately codified in the Energy Supply and Environmental Coordination Act of 1974, prohibiting EPA from imposing surcharges on fees for parking cars.

By 1977, EPA found itself in a double bind. On the one side, the courts, as in *NRDC*, held EPA firmly to the deadlines that were explicitly stated or implied in the Clean Air Act. If the states did not submit plans to attain air quality standards by those dates, EPA would be required to prepare plans, programs, or guidelines to make up for this failure. Hence, EPA's efforts at ISR review, transportation control programs, and the like.

On the other side, in a series of cases challenging EPA's legal and constitutional authority to adopt various transportation controls and other measures, the courts found that EPA had overstepped its statutory and constitutional authority in telling states what to do to clean up their air.

For example, in *Brown v. EPA*, 521 F.2d 827 (9th Cir. 1977), vacated on mootness grounds in *EPA v. Brown*, 431 U.S. 99 (1977), the 1973 California transportation control plan was challenged.There, the United States Court of Appeals for the Ninth Circuit ruled that the Clean Air Act "permits sanctions against a State that pollutes the air, but not against a State that chooses not to govern pollutants as the Administrator directs." *Id.* at 839. The court ruled, in effect, that the Agency could direct States to improve air quality or to stop pollution within their boundaries, but EPA could not require States to pass legislation that affected the polluting behavior of individual citizens.

The plaintiffs in *Brown*, moreover, challenged the constitutionality of EPA's transportation control regulations on Tenth Amendment and Commerce Clause grounds. *Id.* at 837–842. Although the court expressed serious misgivings about whether the regulations would pass constitutional muster, it chose to rest its opinion solely on statutory grounds. *Id.* at 840. *See also District of Columbia* v. *Train*, 521 F.2d 971 (D.C. Cir. 1975) *vacated* 431 U.S. 99 (1977) (Act did not support Administrator's regulations, which required states to enact statutes).[4] Other hastily prepared FIPs that included transportation controls were challenged and overturned for lack of adequate technical support. *See, e.g., Texas* v. *EPA*, 499 F.2d 289 (5th Cir. 1974) *cert. denied* 427 U.S. 905 (1976) (Texas FIP); *South Terminal Corp.* v. *EPA*, 504 F.2d 646 (1st Cir. 1974) (Boston FIP). Lacking judicial and political support, generating nothing but public outrage, and draining resources, EPA's FIP efforts eventually failed.

2. Implementation of the Act in California: 1970–1977

California submitted its SIP for ozone and CO to EPA in February 1972. In May of the same year, EPA Administrator William Ruckelshaus disapproved the plan because it failed to show attainment by the deadline stated in the Act 1975. When EPA failed to promulgate a FIP under section 110(c) within six months of its disapproval of the SIPs for Los Angeles, a Los Angeles-based public interest group brought suit. In *City of Riverside* v. *Ruckelshaus*, 4 E.R.C. 1728 (C.D. Cal. 1972), the U.S. District Court for the Central District of California ordered EPA to produce by January 15, 1973 a plan adequate to bring Los Angeles—an area plagued with the worst air pollution in the country—into attainment by 1975 (three years from adoption of the plan) or 1977 (if the governor requested a two-year extension).

[4] With respect to the state inspection and maintenance regulation, *Brown*, along with other cases from the Fourth and District of Columbia Circuits, was granted *certiorari* by the Supreme Court. When EPA admitted that it lacked authority under the act to force states to enforce EPA-promulgated transportation control programs, the Court declined to rule on the program, as its ruling would amount to an advisory opinion, and remanded the cases for consideration of mootness and ripeness. *EPA* v. *Brown* 431 U.S. 104 (1977). *See also Brown* v. *EPA*, 560 F.2d 865 (9th Cir. 1977) (holding EPA's inspection and maintenance program for California invalid).

Ruckelshaus obeyed the order by proposing a plan that included, among other traffic control measures, a provision that would have required reducing gasoline supplies by 82 percent by the summer of 1977. 38 FR 2194 (1973). As Ruckelshaus explained to the citizens of Los Angeles, "Faced with the choice between my freedom and your mobility, my freedom wins." R. Shep Melnick, *Regulation and the Courts: The Case of the Clean Air Act, at 331–22 (1983).* With the intention of drawing wide public and Congressional attention to the dilemma presented EPA by the Clean Air Act, EPA held public hearings in 1972. The plan was decried by all concerned.

On July 2, 1973, the Administrator proposed a revised plan that set forth three options. Under the first option, literal compliance with the Act would be achieved through 100% gasoline rationing. Nothing else would do to meet the letter of the law. Under the second, gasoline consumption would be limited to 1972–3 levels and other transportation control measures would be introduced. Finally, under the third option, only existing control measures would be implemented. Again, the plans were assailed as unduly restrictive and unworkable.

On October 12, 1973, the Administrator announced a third attempt at formulating a plan for the Los Angeles area. 38 FR 31232. This third plan included several specific and drastic transportation control measures. It required the use of specified freeway lanes and surface streets exclusively by buses and carpools. In addition, by imposing a surcharge on commercial parking rates, it called for a radical change in the Basin's parking rate structure. It also imposed initial annual surcharges on free parking spaces provided by businesses to their customers.

The plan went further. Employers were to impose a charge on employee parking spaces; they also were to provide employees with various other incentives to use carpools and mass transit systems. Portions of the funds collected were to be used to support mass transit facilities. The final plan also included a provision stipulating that literal compliance with the Clean Air Act would require a further reduction of vehicle miles traveled, and that gasoline limitations would be necessary. Commenting on the plan, the Administrator asserted: "The EPA does not believe that massive gasoline rationing is either socially acceptable or enforceable, and will work toward alleviating the necessity for such drastic control in 1977." *See* Chernow, Implementing the Clean Air Act in Los Angeles; the Duty to Achieve the Impossible, 4 *Ecol. L.Q.* 537, 553 (1975). (*citing* 38 FR 31232, 31237 (1973)).

These transportation control measures pleased the public no more than their predecessors. Soon after promulgation of the plan, plaintiffs filed many suits to enjoin the plan's enforcement, and the Administrator deferred the effective date of its more extreme provisions. 38 FR 34124 (1973). Eventually, EPA's authority to promulgate gas rationing regulations was upheld, *see City of Santa Rosa v. EPA,* 534 F.2d 150, 154 (9th Cir. 1976).

Public outrage at the Ruckelshaus plan ultimately led to its withdrawal in 1976. In explaining his rationale for withdrawal of the plan, Acting Administrator John Quarles stated: "I realize that this revocation will render the affected SIP defective as a legal matter, since such SIPs will no longer contain regulations which provide for NAAQS attainment. I am convinced, however, that whatever benefits may be gained from keeping a technically legal SIP on the books by retaining the gasoline rationing regulations are outweighed by the seriously disruptive social and economic consequences of such regulations." *See* 41 FR 45565 (Oct. 15, 1976). The withdrawal went unchallenged.

C. The Clean Air Act Amendments of 1977

Congress in 1977 amended the Clean Air Act in response to persistent nonattainment of the NAAQS for ozone and CO and in reaction to the failed FIP and SIP efforts of the early 1970's. The House of Representatives Report on a bill to amend the Act (H.R. 6161) reviewed the history of the EPA Administrator's inability to use section 110(c)(1) promulgations to achieve the statutory objectives. H. Rep. No. 6161, 95–294, 95th Cong., 1st Sess., *reprinted in* 4 Legislative History of the Clean Air Act Amendments of 1977, at 2748–55 (1978). The Report noted that "this is a delicate area of Federal-State relations. Clearly, a careful balance is required as a matter of wise legislative policy, if not as a matter of constitutional requirement." *Id.* at 2755.

The Committee Report therefore concluded that the wisest course was to adopt "an approach that is intended to involve the least possible intrusion into State affairs consistent with the primary task of protecting public health." *Id.* at 4 *Legislative History* 2755. Noting that, "as a practical matter, State and local governments are in a better position than EPA to resolve those pollution problems, which involve millions of motor vehicles, through inspection and maintenance programs and similar measures," the Report stressed the need to induce States voluntarily to adopt and implement their own transportation control programs. *Id.*

Similarly, the Committee Report on the Senate bill (S. 252) stated that the transportation control aspects of the bill had been designed to take into account that "[t]he Federal Government does not have and will not have the resources to do an effective job of running the air pollution control programs of the State." S. Rep. No. 95–127, 95th Cong., 1st Sess. 10 (1977), *reprinted in* 3 *Legislative History* at 1384–85. The Senate committee noted that "transportation planning", in particular, "is a local political process" and that any amendments to the Act should create incentives for local planning and remedy the "lack of local involvement in the process". *Id.* at 3 *Legislative History,* 1412.

Conceding that the plans had "imposed vast economic and social costs for relatively small improvement in the quality of the environment," Clean Air Act Amendments of 1977, H. Rep. 95–294, pp. 228–29, S. Rep. 95–127 (GPO, 1977, p. 14), Congress extended the Act's deadlines and created a new Part D, a planning process to get the States to revise the SIPs for areas that were exceeding the standards.

The new Section 107(d) required EPA, by roughly March 1978, to identify those areas that in August 1977 were still experiencing NAAQS violations. The States were then required by January 1, 1979, to adopt and submit such revisions to the SIPs for these "nonattainment" areas that would meet the requirements of Part D and the new section 110(a)(2)(I). Section 129(c).

Under Part D, each revision was to provide for attainment of the relevant primary NAAQS as expeditiously as practicable, but in general no later than December 31, 1982. Section 172(a)(1), 42 U.S.C. 7502(a)(1). A revision could provide for attainment of the primary standards for ozone and CO as late as December 31, 1987, if the State demonstrated that attainment by the 1982 deadline was not possible, despite the implementation of all reasonably available control measures (RACM). Section 172(a)(2).

In any event, each revision due in 1979 was to provide for the implementation of RACM and for "reasonable further progress" (RFP)—defined as annual incremental reductions in emissions sufficient in EPA's judgment to provide for

attainment by the applicable deadline, including such reduction as may be obtained through the adoption of "reasonably available control technology" (RACT). Sections 172(6)(3), 171(1).

Each revision also was to have, among other things, a permit program for the preconstruction review of major new sources of the relevant pollutants. Section 172(b)(6). As outlined by section 173 of the Act, the permit program would allow construction even before attainment occurs, upon a determination that (1) the source would have state-of-the-art controls; (2) its emissions would be offset by greater than one-for-one reductions elsewhere, or would be accounted for in an approved demonstration of attainment by the applicable date for the area in which the source was locating; (3) the applicant's other sources in the state were in compliance with the SIP; and (4) the state was carrying out the SIP.

With respect to the areas with 1987 deadlines (*i.e.*, "extension" areas), each revision due in 1979 had to identify any measures beyond RACM that would be necessary to assure timely attainment, and it had to continue commitments to adopt a motor vehicle inspection and maintenance program. In addition, each state with an "extension" area was to submit a supplemental revision before July 1, 1982, containing those additional measures necessary to assure attainment in those areas by the end of 1987. Section 129(c).

As part of the 1977 Amendments, section 110(a)(2)(I) required a construction ban that would operate against major new sources and major modifications of existing sources of the relevant pollutants in each nonattainment area after June 30, 1979, "* * * unless, as of the time of application of a permit for such construction * * *, such pain meets the requirements of Part D * * *."

As further incentive for timely submission of Part D SIP revisions, Congress added sections 176(a) and 316(b). Section 176(a) bars the Department of Transportation from funding certain highway projects, and EPA from making air program grants in an ozone or CO nonattainment area, upon a determination by EPA that the State has failed to make "reasonable" efforts to submit SIP revisions for the area that meet Part D requirements. Section 316(b) authorizes EPA to withhold certain grants for sewage treatment construction where an area has failed, among other things, to submit an adequate Part D SIP for the area.[5]

D. History of Regulatory Development Under Part D

1. Implementation of Part D Nationally: 1978–1985

The EPA began its administration of Part D with the promulgation in 1978 of attainment status designations under section 107(d). *See, e.g.*, 43 FR 8962 (March 3, 1978); 43 FR 40502 (September 12, 1978). Then, on April 4, 1979, EPA published a notice describing in detail the prerequisites to EPA approval of the SIP revisions that Part D required the states to submit in 1979 for areas that were designated nonattainment (44 FR 20372).

On July 2, 1979, EPA issued an interpretive rule establishing that the construction ban in section 110(a)(2)(I) would begin to operate immediately in any designated nonattainment area that was not yet covered by an approved Part D SIP (44 FR 38471 [now codified at 40 CFR 52.24(a) (1987)]. At the time, EPA had yet to approve a Part D SIP for any ozone or CO nonattainment area, so the ban came into effect in all of them. Gradually, the states submitted for most of these areas the first round of Part D SIP revisions that were due at the beginning of 1979, and EPA approved or conditionally approved these revisions. Thus, by the end of 1982, most ozone and CO nonattainment areas were free of the ban.

With respect to areas, like the South Coast, that had received an extension of the attainment date for CO or ozone to the end of 1987, EPA issued a new policy describing the criteria it would use to judge the supplemental SIP revisions that were due for such extension areas in mid-1982. 46 FR 7182 (January 22, 1981). The Agency received 1982 SIP revisions from all extension areas and approved many of them as adequate to produce attainment by the end of 1987. *See, e.g.*, 48 FR 51472 (November 9, 1983) (New Jersey, ozone); 50 FR 25073 (June 17, 1985) (New York City, ozone and CO). EPA also disapproved the SIPs for some extension areas and imposed the construction ban under section 110(a)(2)(I). *See, e.g.*, 50 FR 8616 (March 4, 1985) (Albuquerque, CO).

2. Implementation of Part D in the South Coast: 1978–1984

In the initial round of section 107 nonattainment designations in 1978, EPA found the South Coast in nonattainment for both CO and ozone. Several years after EPA's July 2, 1979 imposition of the section 110(a)(2)(I) construction moratorium, California submitted and EPA approved the 1979 Part D SIP for the area. As a result of that approval, on November 25, 1983, the Agency lifted the construction ban that it had imposed in July 1979. (48 FR 53114).

As part of the initial round of Part D SIP planning, the State of California requested that EPA approve an extension of the statutory attainment date to December 31, 1987 for CO and ozone for the South Coast. EPA approved the request. The State then submitted 1982 updates for the ozone and CO SIPs for the South Coast. Although these SIP revisions included control measures that would produce expeditious progress toward attainment of the applicable standards, the State conceded that the revisions did not demonstrate that the area would attain the standard by the statutory date of December 31, 1987. As a result EPA proposed to disapprove the plan on February 3, 1983. 48 FR 5074.

In final rulemaking published July 30, 1984 (49 FR 30300), however, EPA approved the emission control measures in the CO and ozone extension SIPs, on the ground that they strengthened the SIP. In addition, in that same rulemaking, EPA held open the question of whether the attainment and reasonable further progress (RFP) demonstrations in the South Coast SIP submittals met the requirements of Part D. In September 1984, a citizen named Mark Abramowitz filed a petition in the United States Court of Appeals for the Ninth Circuit, seeking review of EPA's July 30, 1984 decision. *See Abramowitz v. EPA*, 832 F.2d 1071 (9th Cir. 1987).

3. The Reasonable Extra Efforts Program: 1984–1987

Beginning approximately in 1984, EPA began to explore how it might address the likelihood that many extension areas, as well as some non-extension areas that had already received SIP calls,[6] would not attain the ozone and

[5] Congress also added two other funding sanctions for failure to implement a SIP. First, it extended the discretionary withholding of sewage treatment grants under section 316 to such failures. Second, it provided in section 176(b) for a withholding of air grants for any area in which the State is not implementing an applicable SIP. Beyond those funding sanctions, the requirement in section 173(4) operates, in effect, as a ban on the construction of major new sources in the event that a State is not "carrying out" its SIP. This means that, even when the SIP for a designated nonattainment area has been approved and is adequate, the area may become subject to a construction ban if it fails to carry out the SIP.

[6] Under section 110(a)(2)(H), 42 U.S.C. 7610(a)(2)(H), EPA may call for a SIP revision

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CO standards in the near term with their existing SIPs and pending SIP revisions. In particular, EPA began to consider withholding disapprovals of the pending plan revisions and deferring sanctions where, though the states had failed to demonstrate attainment of the standards by the end of 1987 (or even shortly thereafter), they had submitted commitments to adopt all control measures that became reasonably available. EPA solicited comment on whether such an approach, as applied to the South Coast Air Basin and three other California (extension) areas, would be consistent with the Act. *See* 51 FR 34428 (September 26, 1986) (soliciting comment on the "Reasonable Extra Efforts Program" ("REEP") for four areas in California).

After reviewing the language and legislative history of the relevant provisions of the Act,[7] EPA concluded that the REEP approach, as well as a similar approach called the "Sustained Progress Program" ("SPP"), would be inconsistent with the Act—both for extension areas that had not yet received approval of their Part D SIPs and for areas that, though receiving such approvals, needed to revise their SIPs in response to notices of SIP deficiency under section 110(a)(2)(H). 52 FR 26404, 26.407 (July 14, 1987) (General Preamble). With regard to applying REEP and SPP to areas without approved Part D SIP's, EPA stated:

> On its face Part D * * * contemplates an entirely different planning process [from REEP], under which such an areas [sic] must develop within a set period a full plan to produce attainment by a fixed near-term deadline.
>
> * * * * *
>
> The only argument supporting REEP in the face of this statutory language is the one sketched by EPA in its REEP proposal and by industry in its comments, namely, that some extension areas could produce attainment by the end of 1987 only by the application of measures that would tear the economic and social fabric of the areas and that the 95th Congress could not really have intended the areas to put such draconian measures into enforceable form and actually begin to implement them.
>
> The argument, however, misses the point * * *. In fact, the legislative history shows that the Congress set up the Part D system in order to force communities and industry to do their utmost to bring about attainment as rapidly as possible and expected that a future Congress would change the course it had set, if necessary, to avoid any unacceptable consequences.
>
> In sum, REEP and SPP would frustrate the purposes of Part D by abandoning upfront, complete planning for attainment by a near-term fixed deadline in favor of iterative planning for progress alone.

(52 FR 26404, 26408 col. 3 (July 14, 1987)).

Based on this conclusion, EPA proposed to disapprove several pending ozone and CO SIPs for extension areas that did not contain persuasive demonstrations of attainment within such a short-term period, and to impose the construction moratorium in those areas. *See, e.g.*, 52 FR 26431 (July 14, 1987) (reproposal to disapprove California ozone and CO SIPs for the South Coast and Fresno; reproposal to disapprove California ozone SIPs for Ventura and Sacramento).

On November 3, 1987, the Ninth Circuit issued its opinion in *Abramowitz* v. *EPA*, the challenge to EPA's 1984 decision to approve control measures in the 1982 South Coast SIP and to defer action on the plan as a whole. The court found that EPA had exceeded its authority by approving the South Coast control measures without finding whether California had submitted an adequate demonstration of attainment by December 31, 1987, and the Court ordered EPA to take final action to disapprove the relevant SIP provisions forthwith. 832 F.2d 1071, 1079 (9th Cir. 1987). Pursuant to the court order, EPA took final action to disapprove those SIPs and to lay the groundwork for imposing the construction ban under section 110(a)(2)(I). 53 FR 1760 (January 22, 1988). The ban did not take effect until August 31, 1988, due to the sanctions freeze imposed by the Mitchell-Conte Amendment to the 1987 Continuing Resolution (Pub. L. 100–202).[8]

4. Formulation of Post-1987 Policy

On November 24, 1987, EPA issued a proposed policy on how, after passage of the December 31, 1987 statutory attainment date, states should correct their remaining ozone and CO nonattainment problems. 52 FR 45044. The proposal reflected EPA's view at that time of how to apply Part D to state plans after the statutory dates have passed. The Agency received over 2,000 comments on the proposal, and is still analyzing how those comments should affect EPA's final decisions on post-1987 ozone/CO policy. The Agency has not yet reached any conclusions on issues raised by the commenters. A summary of relevant sections of the proposed policy is provided below.

On its face, Part D (section 172(a)) calls for plans that "provide for attainment" of the standard by the stated date (December 31, 1982, or December 31, 1987). Because plans developed after 1987 cannot provide for attainment by either of these dates, under the strictest reading of Part D, a state (or EPA) could never develop a plan that meets Part D requirements, and hence could not actually satisfy the applicable requirements. But EPA stated its belief that Congress would have intended EPA in such circumstances to select, in place of the elapsed dates, a subsequent date consistent with the general principles of the Act and Part D. *See Chevron, U.S.A.* v. *NRDC*, 467 U.S. 837 (1984).

Although it is not clear what subsequent date Congress would have intended in these circumstances, EPA's post-1987 proposed policy referred to the history of the Act's planning requirements and suggested that Congress would have provided EPA (and these areas) an additional period analogous to the three- and five-year periods set forth in section 110(a)(2)(A) and section 110(e), respectively. 52 FR 45065. The Agency reasoned that, when Congress in 1977 directed EPA to initiate a new round of planning for areas that had failed earlier to produce adequate plans meeting the section 110 requirements, it created new planning periods comparable to the section 110 periods (three-to-five years from EPA's approval of the State plan), rather than shortening those periods and thereby demanding plans for immediate attainment. Section 172(a)(1) required the SIPs for nonextension areas to provide for attainment by the end of 1982, four years from the date these submittals were due (January 1, 1979) (*see* section 129(c)).

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whenever the Administrator finds that the plan is "substantially inadequate" to achieve the NAAQS or in other respects fails to comply with the 1977 Clean Air Act Amendments.

[7] This analysis appears in a memorandum of EPA's General Counsel dated November 25, 1986. The evaluation in this memorandum is reflected in the General Preamble discussed in the text below.

[8] The Mitchell-Conte Amendment to the Budget Reconciliation Act of 1987 (Pub. L. 100–202) (December 22, 1987), provided in relevant part:

> No restriction or prohibition on construction, permitting or funding under sections 110(a)(2)(I), 173(4), 176(a), 176(b), or 316 of the Clean Air Act shall be imposed or take effect during the period prior to August 31, 1988 by reason of (1) the failure of any nonattainment area to attain the national primary ambient air quality standard under the Clean Air Act for photochemical oxidants (ozone) or carbon monoxide (or both) by December 31, 1987, (2) the failure of any State to adopt and submit to the Administrator of the Environmental Protection Agency an implementation plan that meets the requirements of part D title I of such Act and provides for attainment of such standards by December 31, 1987, (3) the failure of any State or designated local government to implement the applicable implementation plan, or (4) any combination of the foregoing.

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EPA stated in the policy proposal that, to be sure, Congress had provided a much longer attainment period for extension areas—from January 1, 1979 to December 31, 1987, approximately nine years from the date the initial Part D SIPs were due. But the Agency then noted that Congress had set up two planning periods for these areas—one to apply all "reasonably available" measures and a second to supplement those measures. Since one might assume that most reasonably available measures should already have been implemented in areas such as the South Coast by now, EPA stated that post-1987 planning for the area might be viewed as comparable to the second Part D planning period. That period spanned from the July 1982 submittal date (*see* section 129(c)) to the end of 1987, a period roughly consistent with the three- and five-year periods in section 110.

Based on analogy to sections 110 (a) and (e) and the second Part D planning period of three to five years, the November 1987 policy proposed that EPA apply the relevant construction moratorium (or leave it in place) in all areas whose new plans do not contain a persuasive showing of attainment within three to five years after EPA action on the plan. Other sanctions would not follow if the plan indicated reasonable efforts. These reasonable efforts would be reflected in a rate of progress that would bring (at least presumptively) an average annual emission reduction of at least 3% of the base year inventory for the area, not including the reduction from certain baseline control measures.

The post-1987 proposed policy focused on how states should develop SIPs now that the December 31, 1987 statutory attainment date has passed. The proposal addressed FIPs only tangentially, and did not contain a detailed evaluation of the statute's FIP provisions. Nor did it describe how EPA might construct a post-1987 FIP for the South Coast Basin.

E. Recent and Current FIP Litigation

As the December 31, 1987 attainment date approached, citizens groups began to seek court action to compel EPA to promulgate FIPs for areas still lacking approved Part D ozone and CO SIPs. The first such case was a suit by the Arizona Center for Law in the Public Interest (ACLPI) to compel the Agency to impose highway funding sanctions and promulgate CO FIPs for Phoenix and Tucson, two areas whose 1982 Part D CO SIPs had not received EPA approval. In August 1987 the United States District Court for Arizona held that, although EPA was not under a nondiscretionary duty to impose the highway funding sanctions, its 1986 disapproval of the CO SIPs for those areas had triggered a duty for the Agency to create FIPs. *McCarthy* v. *Thomas*, slip op. (D. Ariz. 1987). The court then set a schedule for EPA to produce the FIPs or approve corrective SIPs for the two areas.

EPA proposed to promulgate a CO FIP for the Phoenix area on May 16, 1988. 53 FR 17378. The proposed FIP would have consisted of two measures that, together with the previously submitted SIP, would produce attainment of the CO standard within three years of FIP promulgation. Thus, the proposal would have applied EPA's views on post-1987 SIP attainment to the FIP for Phoenix. EPA stated that, while the two measures in the proposed FIP could not be said to be clearly practicable to implement, their implementation *might* be practicable and hence the Agency could not find grounds to support a two-year extension of the attainment date under section 110(e).

Subsequent to the FIP proposal, Arizona supplemented its SIP with new state-adopted measures sufficient in EPA's view to remove the need for a FIP for the Phoenix area. Because the SIP as supplemented would produce attainment within three years of SIP approval, EPA approved it. 53 FR 30220 (August 10, 1988). The notice stated, however:

> Certain important qualifications apply to this analysis. First, EPA is here dealing with a situation in which attainment within 3 years is a practicable possibility given the size of the nonattainment problem and the measures that the state has submitted. EPA currently has rulemaking and policy proposals outstanding which raise the question of whether EPA must disapprove a SIP and thereby trigger a construction ban, even where a state has failed to submit measures that would provide for attainment with 3 to 5 years *and* where attainment by means of any measures would be impossible as a practical matter. See 52 FR 26404 (July 14, 1987) and 52 FR 45044 (November 24, 1987). Thus EPA has yet to decide in final form what the role of impossibility is under the Act for the purpose of approval or disapproval of SIPs.
>
> Second, EPA is not deciding in this notice of final action what its obligations under section 110(c) to promulgate a federal implemention plan are. Again, the role of the doctrine of impossibility is uncertain. Further, it is uncertain in any event that EPA must promulgate a FIP that provides for attainment by a near term fixed date. EPA currently is exploring these issues in connection with the ozone and CO SIPs for certain areas in California including the South Coast Air Quality Management District. EPA does not intend by means of the discussion and analysis in this notice to express a final view on these issues.

Id. at 30,227, n.l. Thus, the Arizona rulemaking did not purport to address what section 110(c) requires in relation to an area facing such severe nonattainment that attainment within three to five years would destroy its socioeconomic fabric.

In early 1988, the Coalition for Clean Air and Sierra Club filed a complaint in the U.S. District Court in California to compel EPA to promulgate a FIP for ozone and CO in the South Coast Air Basin. Following some initial procedural filings, the court transferred the case from the Northern District (San Francisco) to the Central District (Los Angeles). Just before that transfer took effect, EPA had filed a response to the plaintiffs' motion on the issue of whether EPA has a duty to promulgate a FIP. EPA's response acknowledged such a duty, which was affirmed by the court in an order dated September 19, 1988. Today's Advance Notice of Proposed Rulemaking reflects EPA's initial efforts to describe and solicit comment on how the Agency can and should fulfill its obligation.

The Agency is involved in similar litigation relating to ozone in other cities. A citizens group, Citizens to Preserve the Ojai, filed suit in the U.S. District Court for the Central District of California to compel EPA to disapprove the 1982 Ventura County ozone SIP and write an ozone FIP for that area. EPA published its disapproval of that SIP on October 5, 1988. 53 FR 39087. The Sierra Club and the Environmental Council of Sacramento have filed suit in the U.S. District Court for the Eastern District of California to compel EPA to disapprove the 1982 Sacramento ozone SIP and promulgate a FIP. Finally, the State of Wisconsin has filed suit in the U.S. District Court for the Eastern District of Wisconsin to compel EPA to disapprove the 1982 Illinois and Indiana ozone SIPs for the Chicago area and to create a FIP. EPA published its disapproval of those SIPs on October 17, 1988 (53 FR 40415) and November 18, 1988 (53 FR 46608). None of those three courts has ruled on the FIP issues.

III. The South Coast Basin: Current Problems and Planning

The South Coast Air Basin (Basin) consists of Orange County, and portions of Los Angeles, San Bernardino, and Riverside Counties. The Basin is bounded on the north by the San Gabriel Mountains, on the northeast by the San Bernardino Mountains, and on the east by the San Jacinto Mountains Lying off the semi-permanent high pressure zone of the eastern Pacif

Ocean, the region's climate is mild, tempered by cool sea breezes.

A. Scope of Problem

Attainment of the NAAQS for ozone and CO is uniquely difficult for the Basin. Despite unprecedented air pollution control accomplishments by one of the largest and most ambitious local air pollution control programs in the country, the Basin retains its position as the nation's worst ozone nonattainment area and is at or near the top rank of the worst CO nonattainment areas.

1. Pollutants

The two pollutants of concern in the context of this Notice are ozone and CO. Problems also arise with respect to oxides of nitrogen (NO_x) and other pollutants.

a. *Ozone.* Ozone is a secondary pollutant, formed primarily as a result of the photochemical reactions between hydrocarbons (HC) and nitrogen dioxide (NO_2) in sunlight. Ozone severely irritates the mucous membranes of one's nose and throat, impairs normal functioning of the lungs, and reduces one's ability to perform physical exercise. Individuals with health respiratory systems, observed while exercising under closely monitored acute (1–2 hours) exposure conditions, suffered health effects and reduced physical capacities in response to even relatively low concentrations of ozone. When ozone levels go higher, chest pains, coughing, wheezing, pulmonary and nasal congestion, labored breathing, sore throat, nausea, and other dysfunctions begin to occur.

Emissions that react to form ozone come from hundreds of sources, including major stationary sources such as refineries, power generating stations, auto assembly plants; and small stationary sources like dry cleaners, corner gas stations, bakeries, and auto body paint shops. Important sources of ozone precursor emissions include motor vehicles, the burning of fossil fuels generally, and consumer and industrial products such as paints and cleaning solvents.

Air quality monitoring data show that of all areas in the country, the Basin has the highest peak ozone concentrations, and experiences the greatest number of days with ozone above the ozone NAAQS. To compare and characterize peak ozone levels, EPA uses an "air quality design value," which is the fourth highest monitored value recorded at a single air quality monitoring station in the area over the past three years. The 1985–1987 design value for the basin is 0.35 parts per million (ppm). This value is nearly three times the NAAQS for ozone (0.12 ppm daily maximum one-hour average); the next highest design value for the same period in another area is Houston's 0.20 ppm, or only 60 percent of the Basin's design value. The estimated annual exceedance of the ozone standard in the Basin for the same period was 143 days per year. No other area in the nation exceeded the ozone standard for more than an average of 35 days per year during that period.

b. *Carbon Monoxide.* CO is a colorless, odorless, and poisonous gas produced by the incomplete burning of carbons in fuels. As much as 95 percent of the CO in the Basin comes from mobile sources, principally motor vehicles.

CO binds chemically to hemoglobin, the substance in the blood that carries oxygen to the cells, and thus reduces the amount of oxygen available to the body tissues. CO weakens heart contractions, reducing the amount of blood pumped, and thus the amount of oxygen available to the muscles and organs. Such oxygen depletion impairs the functioning even of healthy individuals, and can be life threatening to those with heart disease. Exposure to relatively low concentrations of CO can disrupt mental functions, reduce alertness, and impair vision.

The Basin consistently violates the health-based federal air quality standards for CO. As a benchmark for comparison, EPA uses the second highest monitored CO value occurring over an eight-hour period during a year. The Basin's second high peak hour concentrations are approximately twice that of the 9 ppm/8-hour CO NAAQS. During 1986, the Basin exceeded this standard on 49 days.

c. *Other Pollutants.* The Basin is the only area of the country that violates the NO_2 NAAQS. Due in large part to the formation of fine particulate from secondary aerosols, the Basin also has recorded the highest annual average fine particulate matter (PM–10) levels of any major urban area. Reductions in the principal ozone precursors, volatile organic compounds (VOCs) and oxides of nitrogen (NO_x), are essential to the attainment of the NAAQS for NO_2 and PM–10. Nitrogen oxides can irritate the lungs, cause bronchitis and pneumonia, lower resistance to respiratory infections such as influenza, and cause pulmonary edema. Particulate matter can irritate or damage the respiratory system, cause acute respiratory illnesses, and increase the number and severity of chronic respiratory diseases.

2. Severity of the South Coast Attainment Shortfall

The emissions reductions required to bring the Basin into attainment of the ozone NAAQS exceed those needed for other nonattainment areas. The South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) are now capping a four-year effort to develop a new South Coast Air Quality Management Plan (AQMP). This plan strives for attainment of the ozone NAAQS in approximately 20 years (by 2007) and attainment of the CO NAAQS in approximately 10 years by (1997). The proposed AQMP estimates that attainment of the ozone NAAQS will require an 80 to 90 percent reduction in VOC emissions along with reductions in NOx emissions.

The SCAQMD already strongly controls most of the industrial and commercial activities which have been identified for regulation across the country. The massive emission reductions that are necessary to close the remaining attainment shortfall must, therefore, come mostly from previously unregulated sources. These include small industrial, commercial or domestic source categories and mobile source categoies not yet subject to emissions control requirements. Further reductions will also require the application of unprecedented control limits on already regulated existing sources, and the widespread substitution of clean fuels in all source categories.

Three additional factors make the task of achieving the NAAQS in the Basin even more formidable. First, the South Coast is the country's largest and most diverse industrial area, dominated by small companies—pollution sources that are particularly difficult to inventory and regulate. Over the next 20 years, the South Coast's enormous projected growth will make it one of the most populated areas in the United States. Currently, one in 18 persons in the U.S. live in the six-county region covered by SCAG. This region includes Ventura and Imperial Counties, as well as the four South Coast Air District counties. By the year 2010, one in every 15 persons in the U.S. will live in this area, as the population increases to 18,300,000. By the year 2010, population is projected to increase by 37 percent, employment by 47 percent, vehicle miles traveled by 68 percent and vehicle trips by 72 percent.

Second, because of the widely scattered physical locations of jobs, services, entertainment, and housing, and the lack of developed or accepted

mass transit alternatives, residents of the South Coast are intensely dependent upon private motor vehicles trips for commuting to work and for access to essential services and entertainment. SCAG's recent Regional Mobility Plan (February 1988) predicts that today's level of traffic congestion will progress to gridlock by 2010 and that "there may not be enough money, land, or time to simply build our way out of the coming congestion" (p. 1). SCAG calculates that, absent significant changes in driving patterns, the average systemwide speed will drop from 35 miles per hour (MPH) to 19 MPH during that period, with average morning rush hour speeds dropping from 31 MPH to 11 MPH. This congestion will dramatically increase per-vehicle emissions of CO and VOC, since tailpipe emissions of these pollutants are higher at low speeds and, like running loss VOC emissions,[9] increase with time on the road.

Third, the peculiar meteorology and topography of the South Coast make the area especially susceptible to the formation and persistence of high concentrations of ozone in the spring, summer, and fall months. The coincidence of protracted meteorological inversions, light onshore breezes, and high mountains to the east combine to trap air pollutants within the Basin and inhibit normal dispersion for periods of up to several days. Sunlight, a necessary factor in the photochemical reactions that produce ozone, is plentiful year-round; the Basin experiences more days of sunlight than any other major urban area except Phoenix. The Basin has an additional geographical handicap to attainment: high levels of ozone and ozone precursors are transported into the Basin from the urban areas to the north and, potentially, from the outer continental shelf petroleum development activities to the north and west.

3. Proposed South Coast Air Quality Management Plan

The SCAQMD and SCAG publicly issued their proposed AQMP in September 1988. A series of public meetings was convened in July, and will continue until the SCAQMD Board and the SCAG Executive Committee adopt the Plan. Once the plan is adopted locally, it must be approved by the California Air Resources Board (CARB) before submission to the EPA and a SIP revision. The plan addresses all four nonattainment pollutants: ozone, CO, NO_2, and PM–10.

Although the modeling analyses submitted with the draft plan are still being revised, results from preliminary analyses indicate that VOC emission reductions of 80 to 90 percent would be required to achieve the ozone NAAQS.

The SCAQMD estimates that mobile sources account for approximately 50% of the Basin's VOC emissions; industrial and manufacturing account for another 25%; and commercial, residential, and agricultural activities account for the remaining 25%.

a. *Outline of South Coast AQMP.* The draft plan outlines the proposed development and implementation of more stringent controls on currently regulated sources; new stationary-source, area-source, transportation, land use, and energy measures; and additional mobile-source controls. It identifies schedules for adoption and implementation of the controls by numerous local, state, and federal agencies, and it presumes new enabling legislation.

Appendices to the plan discuss near-term control measures, including 69 specific controls on stationary and area source controls; 19 controls on motor vehicles; 22 controls on transportation, land use and energy; and 13 controls on other mobile sources (such as aircraft, pleasure boats, off-road motorcycles).

The draft plan calls for a three-tiered approach to emission reductions from stationary, area, and mobile sources. This approach is based upon estimates of the availability of technology and necessary lead time for the adoption and implementation of new control measures.

Tier I controls cover emissions for which the control technology is assumed available today and for which the necessary control measures can be adopted within the next five years. The plan specifies an adoption schedule and an implementing agency for each control measure. Tier I measures include: a revised, very stringent new source review rule applicable to almost every new or modified source; major NO_x retrofit controls on refineries, utilities, and industrial boilers and turbines; substitute solvents and coatings and further emissions controls for most industrial VOC sources; installation of Best Available Retrofit Control Technology; transit improvements; freeway capacity enhancements; stricter NO_x standards for light-duty vehicles, heavy-duty diesel trucks, and buses; bus electrification or clean fuel retrofit; truck delivery restrictions; out-of-Basin transport of biodegradable solid waste; emission standards on new pleasure boat engines; and control of emission from such sources as aerosol spray deodorants, marine vessels, livestock waste, and residential gas water heaters.

Tier II controls require significant advancement of technology and vigorous regulatory intervention. Research, development, and implementation are scheduled by 2003. The measures include: converting 40 percent of on-road passenger vehicles and 50 percent of off-road vehicles to clean fuels (*e.g.*, neat methanol, fuel cells, or electric power); converting 70 percent of freight vehicles to methanol; converting all diesel transit buses to methanol, liquid petroleum gas (LPG), compressed natural gas (CNG) or electricity; maintaining vehicle miles traveled and the number of vehicle trips at current levels through growth management and increased ridesharing; restrictions on driving, licensing, and vehicle registration, if necessary; and reducing 50 percent of the remaining VOC emissions from mobile sources, solvents and coatings, and consumer products.

Tier III programs are designed to bring about major technological breakthroughs to further reduce emissions of VOCs and NO_x. Research, development, and commercialization are scheduled to be completed by 2007. The proposed strategies anticipate almost complete elimination of VOC from solvents and coatings, and a total on-road automobile fleet conversion to electricity. As a contingency, the plan discusses the removal of high-polluting industry from the Basin. Tier III also relies on the replacement of industrial and commercial combustion units with electric power generated outside the Basin.

The SCAQMD Board is funding a multi-million dollar research and development program to advance the creation and application of technologies needed for the Tier II and Tier III control programs.

The plan also identifies the need for state and/or federal agencies to lower emissions standards on new jet aircraft engines; to control fugitive emissions from marine vessel tanks and from outer continental shelf exploration, development, and production; and to limit emissions from pesticide application.

[9] So-called "running losses" are emissions of VOC released from points other than the tailpipe or crankcase, while an engine is running. They are distinguished from evaporative emissions, which are those VOC losses that occur when the engine is turned off. Running losses are nearly all due to evaporation (and in extreme cases, boiling) of fuel from the fuel tank. This is especially apt to occur with high volatility fuels, at high ambient temperatures, and under driving conditions conducive to high fuel tank temperatures.

b. *Recent Legislation in California.* Recent major legislative enactments in California have reinforced the SCAQMD's and ARB's powers to achieve significant progress in the air quality of the Basin.

In the fall of 1987, through the passage of Senate Bill (SB) 151 (Presley) the California State Legislature gave strengthened authority to the SCAQMD for control of mobile source emissions. SB 151 imposes a state-mandated local program requiring that SCAQMD's rules and regulations provide for indirect source controls and transportation control measures. The Bill also permits the SCAQMD Board to adopt regulations specifying the composition of motor vehicle fuel for sale in the Basin. In addition, it gives the SCAQMD the authority to prohibit or restrict the operation of heavy-duty vehicles on freeways and high volume highways during peak commuter travel periods.[10]

On September 30, 1988, the Governor of California signed Assembly Bill (AB) 2595 (Sher), "The California Clean Air Act of 1988." AB 2595 further strengthens the authority of local air pollution control districts, such as the SCAQMD, to enact transportation control measures (TCMs) and regulate indirect sources. It requires these districts, with the cooperation of the Councils of Governments, to prepare comprehensive plan revisions to attain the federal and state ambient air quality standards. The Act establishes different requirements for three classes of areas, depending upon the scope of the nonattainment problem, but all areas are required to achieve at least a five percent reduction in emissions per year. The most severe nonattainment areas (those unable to attain by 1997) must include in their plan: (1) Permitting programs to achieve no net increase in permitted emissions; (2) TCMs to achieve an average commute ridership of 1.5 after 1999, and no net increase in vehicle emissions after 1997; (3) measures to achieve the use of a significant number of low-emission motor vehicles by fleet operators; (4) measures to reduce average per capita ambient exposure to levels above the standards by 25% by 1994; and by 50% in the year 2000. Finally, AB 2595 requires the ARB to adopt, by the end of 1992, consumer product VOC emissions regulations reflecting the maximum technologically feasible control. It also requires the ARB to take, by the beginning of 1992, all "necessary, cost-effective and technologically feasible" actions to achieve a 55 percent reduction in VOCs, a 15 percent reduction in NO_x and the maximum feasible reductions in CO from vehicular and mobile sources by 2000.

c. *Current Schedule for Adoption of South Coast AQMP.* The current schedule for adoption of the proposed South Coast AQMP calls for local adoption hearings by SCAG and the SCAQMD in December 1988, and for adoption by ARB in the spring of 1989. If ARB adopts the plan, ARB would submit it to EPA for approval as a SIP revision soon afterward. The AQMP includes detailed schedules for later adoption by the various responsible jurisdictions of individual measures in the plan.

If this draft plan is submitted to EPA as a SIP revision, it would precede by at least two years the national submittal deadline for post-1987 SIPs suggested by EPA's post-1987 ozone/CO policy proposal. That proposal would require a plan to contain state and local control measures that provide an annual reduction in emissions of at least three percent per year beyond a baseline of measures previously required or promulgated by EPA. The South Coast SIP would appear to be more stringent than this minimum "reasonable efforts" progress requirement in the proposed policy, provided the SCAQMD and the relevant governments supplement the plan framework with regulations sufficient to produce the projected emissions reductions.

EPA's preliminary review of the South Coast plan suggests that such a plan as the South Coast has developed, if adopted and implemented on schedule, would provide for: (1) The near-term application of currently available technologies; (2) an ambitious commitment to the development and widespread application of future technologies; (3) an aggressive program for the implementation of transportation control measures; and (4) useful proposals for new source review and indirect source review.

On the other hand, optimism over this plan must be tempered by realism. The plan provides for marginal attainment throughout the Basin, even though it evinces a readiness to adopt harsh measures. At this point, moreover, the South Coast plan must still be regarded as a blueprint for attainment. Much remains to be done before it will embody enforceable measures, and before its hoped-for emissions reductions can be counted upon. Moreover, because the plan is so ambitious—it mandates sweeping changes in established industries—its impact on social and economic life in the Basin will be profound, and may stand in the way of its thorough implementation.

IV. What Attainment Deadline Governs Post-1987 FIPs?

EPA's current dilemma arises from the Clean Air Act's failure to be explicit about the deadline by which a federal implementation plan for the South Coast—or for any area still subject to Part D of the Act—must show attainment of the ozone standard mow that the Decemberr 31, 1987 attainment date in Part D has passed.[11] To address the problem, we must first review the applicable principles of statutory construction.

A. Principles of Statutory Interpretation

The Supreme Court recently outlined these principles in *Chevron, U.S.A., Inc.* v. *Natural Resources Defense Council,* 467 U.S. 837 (1984). The first question to ask is whether Congress:

> has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.

Id. at 843. If there is no statutory language that directly speaks to the issue, then we must look beyond the immediate language to the statute as a whole, and to the legislative history. Should we find expressed a specific Congressional intention, our search is at an end. If, however, Congress has not directly addressed the precise question at issue—"if the statute is silent or ambiguous with respect to the specific issue"—then we must proceed to construe the statute in accordance with

[10] The SCAQMD has taken the following steps to exercise this newly acquired authority:

a. In January 1988, the SCAQMD approved a $30.6 million clean fuels demonstration program that will test cleaner burning fuels for both stationary and mobile sources. The SCAQMD has already approved $6 million in 1988 for such projects as a fuel cells demonstration project, electrification of curing and drying plants, methanol projects for commercial boilers, new treatments for municipal solid wastes, alternative fuels for mobile sources (electrification, compressed LNG/LPG, methanol), and conversions and retrofits for buses to methanol. The program is a demonstration of the SCAQMD's commitment to a shift from petroleum-based fuels to methanol as a long-term strategy.

b. Regulation XV, a trip-reduction/indirect-source rule, was adopted by the SCAQMD Board in December 1987. This regulation requires all employers in the South Coast Basin who employ over 100 persons at any worksite to promote employee participation in ridesharing programs. The intent of Regulation XV is to reduce emissions from vehicles used for commuting between home and the worksite.

[11] The impetus for this discussion is the FIP obligation EPA faces in the South Coast, an area that does not yet have an EPA-approved Part D SIP. Most of the principles EPA describes however, logically apply also to areas with approved Part D SIPS that failed to produce attainment by the end of 1987.

its language, history, and purposes. Id. at 843–845, to 865.

When the plain meaning of the language of a statute is sufficient to determine the purpose of legislation, courts generally follow it. *See United States* v. *American Trucking Association*, 310 U.S. 534, 543 (1940). But courts also have been willing to look beyond the plain language of the statute to divine Congressional intent.

> When that meaning has led to absurd or futile results, * * * this Court has looked beyond the words to the purpose of the Act. Frequently, however, even when the plain meaning did not produce absurd results but merely an unreasonable one "plainly at variance with the policy of the legislation as a whole," this Court has followed that purpose rather than the literal words.

Id. at 543 (footnote omitted). *See also TVA* v. *Hill*, 437 U.S. 153, 184 n. 29 (1978). Conversely, when the legislative history, combined with the plain language, supports seemingly harsh or absurd results, courts are unwilling to reconstrue statutes. *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1978) (citing *Crooks* v. *Harrelson*, 282 U.S. 55, 60 (1930)). *See also Commissioner of Internal Revenue* v. *Asphalt Products Co., Inc.*, 107 S. Ct. 2275, 2278 (1987).

Beyond that, several courts have examined EPA's failure to perform a statutory duty, such as issuing regulations or guidelines within a statutory period, in light of the Agency's argument that compliance with the deadline was infeasible or impossible. See, e.g., *NRDC* v. *Train*, 510 F.2d 692, 712–13 (D.C. Cir. 1975); *Sierra Club* v. *Thomas*, 658 F. Supp. 165, 170–173 (N.D. Cal. 1987); *Sierra Club* v. *Ruckelshaus*, 602 F. Supp. 892, 898–99 (N.D. Cal. 1984). When the agency can establish impossibility by demonstrating manpower, methodological or budgetary constraints, courts will not force the Agency "to do an impossibility." *Sierra Club*, 602 F. Supp. at 899 (citing *Maggio* v. *Zeitz*, 333 U.S. 56 (1948)).

Along the same lines, courts also disfavor statutory constructions that infer broad agency powers to effect radical economic and social change. In determining not to interpret section 112 of the Clean Air Act to require EPA to set a zero-emissions standard for hazardous air pollutants, the United States Court of Appeals for the District of Columbia Circuit, *NRDC* v. *EPA*, 824 F.2d 1146, 1154 (D.C. Cir. 1987 *en banc*), stated:

> The EPA has determined that a zero-emissions standard for non-threshold pollutants would result in the elimination of such activities as the "generation of electricity from either coal-burning or nuclear energy; the manufacturing of steel; the mining, smelting or refining of virtually any mineral * * *; the manufacture of synthetic organic chemicals; and the refining, storage, or dispensing of any petroleum product." *It is simply not possible that Congress intended such havoc in the American economy and not a single representative or senator mentioned that fact.*

(citations omitted) (emphasis added). *Cf. Industrial Union Dept.* v. *American Petroleum Institute*, 448 U.S. 607, 645 (1980) ("In the absence of a clear mandate in the Act, it is unreasonable to assume that Congress intended to give the Secretary [this] unprecedented power over American industry.")

Finally, when two statutory provisions conflict, the maximum possible effect should be given the provisions. As the Court of Appeals for the District of Columbia Circuit stated in *Citizens to Save Spencer County* v. *EPA*, 600 F.2d 844, 871 (D.C. Cir. 1979) (footnotes omitted) (emphasis in orginal):

> * * * If the inconsistent provisions point generally in a common direction * * * it is the task of an agency with the requisite authority to pursue a middle course that vitiates neither provision but implements to the fullest extent possible the directives of each, and it is the task of a reviewing court to ensure that the agency has effected an appropriate harmonization of the conflicting provisions while remaining within the bounds of that agency's statutory authority.

Furthermore, it is appropriate for the agency to look to the underlying goals and purposes of the legislature in enacting the statute, "while avoiding unnecessary hardship or surprise to affected parties and remaining within the general statutory bounds prescribed." *Id.* (footnotes omitted).

B. The Starting Point: The Search for a Specific Congressional Intent

As stated earlier, the first step in our analysis is to see whether the statutory language or the legislative history reveals a specific congressional intent as to what attainment date applies to a post-1987 FIP for an area like the South Coast. The leading statutory provision is section 110(c)(1). It defines not only the conditions that trigger EPA's duty to promulgate a FIP, but also the elements a FIP must include. It goes only so far as to indicate, however, that a FIP must satisfy "the requirements of this section," that is, section 110. First, EPA must promulgate a FIP for a state when a state fails to submit a SIP that "meets the requirements of [section 110]." Moreover, the only escape from this obligation is if, prior to promulgation, the "state has adopted and submitted a plan (or revision) which the Administrator determines to be in accordance with the requirements of this section." Section 110(d) corroborates this general guidance: it states that an "applicable implementation plan" is one "which has been approved under subsection [110](a) or promulgated under subsection (c) and which implements the requirements of this section." Thus, it appears that Congress intended a FIP to be a complete substitute for an approvable SIP, or to form, together with a SIP that is not fully adequate by itself, a plan that is fully approvable under section 110.

Section 110, in turn, impliedly incorporates for nonattainment areas the requirements of Part D. It does so by its reference in section 110(a)(2)(A) to the construction ban in section 110(a)(2)(I) and by that section's reference to Part D. *See also* section 172(b)(1), 42 U.S.C. 7502(b)(1) (express recognition that the plan for a nonattainment area might be promulgated by EPA). Thus it appears that Congress intended an FIP for a nonattainment area to comply with the requirements of Part D.

But when it comes to determining the appropriate date for a SIP or a FIP to show attainment, the last date specified in either section 110 or Part D is December 31, 1987. If the parenthetical reference in section 172(b)(1) to a plan "promulgated by the Administrator" incorporates the dates in section 172(a), and if EPA had been compelled to create a Part D FIP for a nonattainment area in, say, 1993, then EPA would have been required to issue an FIP providing for attainment by the end of 1987. This date is now past, however, and it is impossible for areas without Part D SIP approval to meet it. Moreover, the statute contains no explicit instructions as to what attainment date applies to FIPs adopted after 1987. Thus, the language itself does not reveal a specific congressional intent as to what the attainment date for post-1987 FIPs should be. We must therefore look to the legislative history to discover whether Congress had such an intent.

The history contains very little direct discussion of the attainment date requirements for FIPs. Senator Muskie, one of the sponsors of the 1977 Clean Air Act Amendments, spoke of FIP deadlines, but failed to make clear in his remarks whether FIPs were intended to adhere to the December 1987 final date. Senator Muskie stated:

> [1982 Extension SIPs] must provide for attainment as expeditiously as practicable, but not later than the firm deadline of December 31, 1987. Where States do not submit adequate plans, the Administrator

must promulgate his own plan insuring attainment by *firm deadlines*.

123 Cong. Rec. 26,847 col. 1 (August 9, 1977) (statement of Sen. Muskie), *reprinted in* 3 Leg. Hist. 355. (emphasis added). The Senator further remarked that "the Administrator will be required to promulgate plan revisions insuring NAAQS attainment by the *appropriate deadlines* where a State's plan is inadequate." 123 Cong. Rec. 26,847 col. 2 (August 4, 1977) (Statement of Sen. Muskie), *reprinted in* 3 Leg. Hist. 356. Senator Muskie's omission of any reference to the date by which an FIP must assure attainment, coupled with his identification of the date by which an SIP must assure attainment, means that it is simply unclear whether he intended the FIP attainment schedule to track, or to vary from, the SIP attainment schedule. Further, there is absolutely no discussion of what constitutes a "firm" or "appropriate" SIP or FIP deadline after 1987. Thus we must look elsewhere in the history to divine whether Congress had a specific intent with respect to post-1987 FIP deadlines.

The history reveals that Congress intended 1987 to be a firm deadline, and that Congress believed it would provide legislative relief if that date proved impossible for some areas to meet.

First, there is evidence that Congress anticipated that it would be impossible for some areas of the country to attain the standards by 1982, and, for some, even by 1987. Senator Domenici stated:

> Now I understand that we may very well find ourselves at a point in time where these particular standards and dates set for them cannot be met.

Transcript, Mark-Up, Clean Air Act Amendments at 13 (May 4, 1977). *See also* Floor Statement of Rep. Maguire (stating that "many of [our major cities]—perhaps 28 of those cities—will not [attain the primary air standards] even by the year 2000"), 123 *Cong. Rec.* 16,208 col. 1 (May 24, 1977), *reprinted in* 4. Leg. Hist. 3066. Furthermore, a number of members noted the need to keep fixed deadlines, even as "somewhat of a legal myth" because they "provide a basis for attaining maximum progress towards clean air." Transcript, Mark-Up, Clean Air Act Amendments, at 13 (May 4, 1977) (statement by Sen. Domenici). Finally, several legislators anticipated the need to provide legislative relief from the 1982, and from even the 1987, deadlines. For example, Sen. Stafford stated that:

> It should be noted that these [1982 and 1987] deadlines will not require adoption of "draconian" control measures. The bill provides that those areas with the most intractable oxidant problems commit themselves in 1979 plan revisions only to reasonable measures to meet the 1987 deadlines. A second round of planning must be completed by 1982, providing plenty of time for legislative relief, should the 1987 date prove unattainable for a handful of areas.

123 Cong. Rec. 18,038 col. 3 (June 8, 1977) (statement of Sen. Stafford), *reprinted in* 3 Leg. Hist. 771.

It is apparent from these passages that Congress understood that some areas would find attainment by the end of 1987 impossible, and that Congress, arguably, did not intend to force the development of plans that would result in attainment in those areas by the end of 1987.[12] Nevertheless, Congress also wanted to force as much air quality improvement as possible. As a result, it adopted a strategy of (1) commanding the creation of legal structures that, through tight deadlines and the threat of enforcement, would pressure polluters and local governments to do their utmost, and (2) expressly recognizing that a subsequent Congress might provide relief. Indeed, all explicit references in the legislative history to the prospect of relief from the 1987 deadlines are to relief provided by *Congress*.

Here, however, 1987 has come and gone, and Congress has provided no such relief. While the history reveals an intent that only Congress provide relief from the 1987 attainment date, it reveals absolutely no specific intent as to what should happen if Congress failed to provide such relief (or new direction) by the time EPA was faced with having to create a post-1987 FIP.

Since neither the language nor the legislative history reveals a specific intent as to post-1987 FIP attainment dates in these circumstances, the statute contains a gap that, under *Chevron*, the Agency may fill by reaching a reasonable accommodation with other aspects of the Act's language, history, purposes, and structure.[13]

[12] A further indication that Congress may have intended the requirement for attainment by 1987 to be more in the nature of an incentive (or threat) to induce the greatest effort possible may be inferred from the fact that the legislative history includes almost no discussion of what types of measures the 1982 extension SIPs were to include to assure attainment by 1987. For example, the Senate Report included a lengthy discussion of the types of measures to be included in the 1979 SIPs, but stated only that the 1982 extension SIPs must "contain [] the enforceable measures needed to achieve the standard by 1987." S. Rep. No. 95–127, 95th Cong., 1st Sess. at 39 (1977), *reprinted in* 3 Leg. Hist. at 1413.

[13] Here, this task is not an easy one, since, as the Court noted in *Chevron*, "the Clean Air Act Amendments of 1977 are a lengthy, detailed, technical, complex and comprehensive response to a major social issue." 467 U.S. at 850. As the Supreme Court has recognized, the statute represents Congress' effort to a reconcile competing interests. *Id.* at 863.

C. EPA's Chevron Analysis: Description of the Act's Basic Themes

Some portions of the Act's language are useful to our analysis under *Chevron* of how best to fill the attainment date gap in the statute. For example, the requirement that plans "provide for attainment" (sections 172 (a) and (c) and 110(a)(2)(A)) makes it clear that a post-1987 FIP must have some fixed attainment date. The Agency concluded as much when it rejected the REEP concept in the July 14, 1987 **Federal Register.**

Other language suggests that the post-1987 FIP attainment date should not be so stringent as to end all significant economic activity in an area. For example, section 110(a)(2) of the Act appears to contemplate that pollution controls would be consistent with significant continuing economic activity. Section 110(a)(2) calls for "emission *limitations*" and "transportation controls" (section 110(a)(2)(B)); "*regulation* of the modification, construction, and operation of any stationary source" (section 110(a)(2)(D)); "requirements for installation of equipment by owners or operators of stationary sources to monitor emissions from such sources" (section 110(a)(2)(F)); and "periodic inspection and testing of motor vehicles to enforce compliance with applicable emission standards" (section 110(a)(2)(G)) (emphasis added). Moreover, sections 172(b)(6) and 173 contain requirements for allowing new sources to construct in nonattainment areas. These requirements by their terms contemplate ongoing socio-economic activity consistent with reasonable and acceptable programs to meet the goals of the law.

Finally, the residual requirement that all plans provide for attainment "as expeditiously as practicable" (sections 172(a) and 110(a)(2)(A)), if read in isolation, suggests that if the Act contains no uniform nationwide attainment date EPA might consider choosing a FIP attainment date suitable to the practicalities of attainment in each particular area—even if for some areas that date were to extend far into the future.

The Act's structure and the history of how Congress has addressed similar in the past suggest that fairly short attainment periods would be most consistent with the goals of the statute. First, the structure of Section 110 and Part D is biased toward creation of

plans to attain within relatively short periods of three to ten years. On the previous occasion when Congress was able to address the problem, it did not require immediate attainment, or even shorten subsequent planning periods. Instead, in 1977, when Congress ordered a new round of planning for areas that had failed to meet section 110 deadlines, it extended planning deadlines for periods comparable to previous section 110 periods. Moreover, the structure of the Act's planning provisions and the history reveal that Congress was interested more in ensuring the creation of *plans* for attainment by dates in the future than with forcing immediate shutdowns and curtailments of driving.

The legislative history "plainly identifies the policy concerns that motivated" enactment of the statute. 467 U.S. at 863. Congress, in its consideration of the Clean Air Act Amendments of 1977, struggled to reconcile the goal of clean air with that of continued economic development.[14] Congress sought to improve air quality, and to impose tough measures to do so, but also tried to minimize economic disruption, and foresaw that the target dates it set might prove too difficult for all to meet.

Several Congressmen indicated that they envisioned that tough measures would be required to implement the 1977 Amendments. Rep. Rogers emphasized that the legislation "retains and even strengthens the technology forcing and technology encouraging goals of the 1970 Act." 123 Cong. Rec. 27,070 col. 1 (August 4, 1977) (statement of Rep. Rogers), *reprinted in* 3 Leg. Hist. at 319. Senator Muskie stated that the requirement to impose reasonably available control technology may result in "some dislocation and disruption * * * during the beginning stages of [the] control program * * *." 123 *Cong. Rec.* 18,019 col. 3 (June 8, 1977) (statement of Sen. Muskie), *reprinted in* 3 Leg. Hist. 720.

But during a colloquy in the Senate on a provision to exempt from highway and air planning funding sanctions those areas making reasonable efforts, three Senators suggested that some states might avoid such dislocation and disruption by planning for attainment in the long term. Senator Stevens questioned Senator Gravel about an area such as Fairbanks, Alaska, which has a naturally-caused problem with CO that is aggravated by ice and fog and CO emissions from cars. Senator Gravel reassured Senator Stevens that even if the problem could not be solved "by the year 2000, we still will not get hurt."

> *Mr. Stevens:* This means that the State of Alaska will not lose those funds if we cannot solve the ice-fog problem?
>
> *Mr. Gravel:* If that happens, I will come to the floor of the Senate and slash my wrists * * *.

Senator Muskie stated that it was "reasonable" to retain "some sanctions for those jurisdictions which make no effort * * * to put together implementation plans * * *." 123 Cong. Rec. 18476 col. 3 (June 10, 1977) (statements of Sens. Gravel, Stevens, Muskie), *reprinted in* 3 Leg. Hist. 1063. (Such sanctions subsequently were enacted in section 176(a)). Thus, rather than focusing on the point that Alaska's failure to solve the ice-fog problem by the Part D deadlines would result in a FIP to do just that, the Senators indicated that, to the contrary, the state could do only what was reasonable, implicitly with *no* FIP consequences.

The history reveals other indications that Congress did not intend EPA to impose harsh measures on localities. As Senator Randolph stated:

> While the general objective of the Clean Air Act is the continued reduction of pollution, this bill recognizes that industrial and commercial activity cannot and should not be stopped to achieve this purpose.

123 Cong. Rec. 26852 (August 4, 1988) (statement of Sen. Randolph), *reprinted in* 3 Leg. Hist. 369. Indeed, in 1974 and in the 1977 Clean Air Act amendments, Congress removed EPA's authority to impose parking surcharges and indirect source review, since they viewed these powers as too harsh and intrusive. The Senate Report explained some of these changes in these terms:

> To avoid placing unreasonable burdens on transportation control mechanisms, this section amends existing law in several basic respects:
>
> (1) it prevents EPA from requiring any measures that would have serious and adverse economic or social impact * * *

S. Rep. 95–127, 95th Cong., 1st Sess. 38 (1977), *reprinted in* 3 Leg. Hist. 1412.

Similarly, the 1977 House Report stated:

> [T]he Committee is especially cognizant of the potentially sweeping consequences and potentially socially and economically disruptive impacts which may result from efforts to reduce automobile pollution through mandated reductions on new parking facilities. This risk of such adverse effects can be minimized only if the program is designed, implemented and enforced by State and local governments. H.R. Rep. 95–294, 95th Cong., 1st Sess. 222 (1977), *reprinted in* 4 Leg. Hist. 2689.

Congress also emphasized that one of the purposes of the 1977 Clean Air Act amendments was to strengthen the State and local role in improving air quality, and correspondingly, to reduce that of the Federal government. In particular, Congress emphasized that transportation control measures ("TCMs")—which Congress recognized would be essential for nonattainment areas—must be directed by state and local government. Speaking about the Conference bill in general, Sen. Muskie stated that, in comparison to EPA's power under the 1970 Clean Air Act Amendments:

> The Administrator [of EPA] will be more reliant on local and State capabilities to create the institutional and infrastructural changes necessary to achieve clean air * * *. We have learned that there is little political support for inartfully conceived national measures which require people to change their way of living. We have learned that where change can be made it must be made with the full understanding and support of the people who are affected by the change.

123 Cong. Rec. 26841 col. 3 to 26842 col. 1 (August 4, 1977) (statement of Sen. Muskie), *reprinted in* 3 Leg. Hist. 341. Senator Muskie, speaking more specifically of TCMs, also observed that:

> * * * State and local governments are in a better position than EPA to attack those problems, which involve millions of motor vehicles, through inspection and maintenance programs and similar measures.
>
> In addition, the scheme contemplated by the act is a reasonable approach to this problem, one that is designed to involve the least possible intrusion into State affairs consistent with the task that is necessary.

123 Cong. Rec. 18020 col. 1 (June 8, 1977) (statement of Sen. Muskie) *reprinted in* 3 Leg. Hist. 721. Thus, two clear strands of legislative purpose are Congress' desire to avoid imposition of draconian measures and to intrude as little as possible upon State and local initiatives.

From this review of the Act's language, structure, history, and purposes, we can identify several themes, not all of which are consistent with one another. We see a desire for fixed deadlines limited to a decade or less, yet not so short as to cause the cessation of economic activity and

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[14] Representative Waxman stated:

> We have struck a proper balance between environmental controls and economic growth in the dirty air areas of America. . . . There is no other single issue which more clearly poses the conflict between pollution control and new jobs. We have determined that neither need be compromised.

123 *Cong. Rec.* 27076, col. 1 (August 4, 1977) (Statement of Rep. Waxman), *reprinted in* 3 Leg. Hist. 336. Senator Randolph agreed that the revised Act "recognizes that industrial and commercial activity cannot be and should not be stopped to [reduce pollution]." 123 Cong. Rec. 26852 col. 2 (August 4, 1977) (statement of Sen. Randolph), *reprinted in* 3 Leg. Hist. 369 (this reprinting erroneously attributes this statement to Sen. Stevens).

growth in any area. We see a desire to attain the standards through practicable means,, but an acceptance (perhaps even desire) for a certain amount of technology forcing. Finally, the Alaska colloquy reveals little recognition that in severe nonattainment areas EPA would actually impose draconian measures.

A review of these themes yields three possible answers to the FIP deadline question, each of which offers a different means of reconciling "manifestly competing interests." 467 U.S. at 865–66. These alternative solutions are: (1) Immediate attainment; (2) attainment within five years; (3) attainment in a longer term, but as expeditiously as practicable without causing severe economic and social disruption. In the next section, we will discuss each of these alternatives in turn, summarizing the legal and equitable arguments for and against each. In doing so, we will also describe the type of FIP each of the interpretations would impose.

Selecting an interpretation that would prescribe a post-1987 attainment deadline for the South Coast has profound implications. The South Coast authorities estimate that an 80–90 per cent reduction in VOC emissions is necessary to attain the ozone standard. Consequently, any FIP for the area would need to eliminate or severely limit practically every human activity that produces VOC emissions. Since a significant portion of the Basin's ozone problem, and almost all of its CO problem, is due to mobile sources, a plan aimed at attaining these standards in five years would have to ban the sale or use of fossil fuels for cars and trucks, airplanes, boats, and trains. To achieve the necessary emission reductions, and still allow the minimum essential vehicles—*e.g.*, police cars, emergency response vehicles, and delivery trucks of food and medical supplies—a short-term FIP would have to prohibit entirely the use of all non-essential pollutant-emitting vehicles, since even vehicles burning relatively clean fuels, such as methanol, could still cause continued nonattainment.

Thus, under a short-term attainment FIP, people would be forbidden to operate any private vehicle that was not "emission-free"; only vehicles such as bicycles or electric cars would be permitted. The development, on a mass scale, of clean vehicles for private use, or of mass transit alternatives that do not burn gasoline or diesel fuel, could not take place within five years. Nor would there be any realistic opportunity to establish clean transportation substitutes for aircraft, locomotives, marine vessels, and heavy-duty diesel trucks. If a short-term FIP were enforced, it would be impossible for most people to commute to work, and for most forms of commerce to continue.

As noted above, industrial and manufacturing facilities contribute about one quarter of the Basin's VOC emissions; consumer products and related services account for another quarter. A short-term FIP would necessarily prohibit almost all VOC emissions from manufacturing activities, and ban all products with VOC emissions—for example paints, waxes, pesticides, auto antifreeze, cleaning products, lubricants, and suntan lotions. The ban would extend to the manufacture, sale, and use of any reactive hydrocarbon-based solvent, coating or solution.

A short-term FIP would also prohibit refining, storage, transportation and combustion of fossil fuel. Southern California is the largest petroleum refining and distribution area on the West Coast. Federally required shutdowns of the petroleum refining and trans-shipping operations in the South Coast would have severe effects not only in the Basin, but in other areas as well.

Other major industries in the Basin—for example, auto asembly plants, furniture manufacturing plants, printing plants, aerospace plants, semi-conductor plants and electronics plants—would be forced to discontinue or drastically curtail operations.

A more detailed description of the elements and probable effects of a five-year FIP is contained in Appendix A. But it is evident that a short-term FIP would have catastrophic consequences. Only a FIP that forced emission reductions gradually over a fairly long period could temper those consequences by allowing economic and societal adjustments.

D. Analysis of Three Ways to Fill the Statute's Gap

1. Interpretation 1: Immediate Attainment

This interpretation is premised on the fact that the last deadline specified in the statute is now past, and nothing in the statute provides explicit authority for EPA to extend it. Since it is impossible for EPA, as well as any state, to fashion a plan that would produce attainment by this deadline, arguably EPA must do the next best thing, and prepare a plan demonstrating immediate attainment (e.g., within 30 days of publication of the FIP in **Federal Register**).

In the past, in a similar situation involving the Federal Water Pollution Control Act (FWPCA), EPA concluded that immediate compliance with lapsed deadlines is required. The FWPCA authorized EPA to issue permits requiring dischargers to achieve effluent limits based on the "best practicable control technology currently available" (BPT) by July 1, 1977. But EPA was unable to issue implementing guidelines or permits in time. Thus, in spite of good faith efforts, some companies found it impossible to meet this deadline, and petitioned in court for EPA to grant extensions. Upon examination of the legislative history, the United States Court of Appeals for the Third Circuit found that the deadline "was intended by Congress to be a rigid guidepost" and "an inflexible target." *Bethlehem Steel Corp.* v. *Train*, 544 F.2d 657, 661 (3rd Cir. 1976) [citing portions of legislative history]. Thus the court concluded that Congress did not authorize EPA to deviate from the deadlines. The court stated that:

> *Union Electric Company* v. *EPA*, [427 U.S. 246 (1976)], appears to indicate that the Supreme Court is willing to construe environmental statutes in a manner that may impose major burdens on polluters, and if the plain language of the applicable legislation so indicates, relief from such hardships must flow from Congress.

Indeed, in 1976, on the previous occasion that EPA was required to prepare a FIP for Los Angeles, EPA and the Ninth Circuit regarded the statutory deadline then applicable—May 1977—as absolute. The court upheld gas rationing regulations in a FIP aimed at meeting the deadline prescribed in the statute, observing that the Clean Air Act has permitted postponement of the initial 1975 attainment deadline until 1977, if there was no reasonably available alternative. But the court noted that:

> There is no comparable language contained in the requirements for development of the alternative plan after the extension has been granted. Thus, while Congress indicated its desire to take social and economic factors into consideration when granting extensions, the lack of comparable language elsewhere indicates that those factors would not affect the implementation of the only plan available to meet the standards. *South Terminal Corp.* v. *EPA*, 504 F.2d 646, 675–76 (1st Cir. 1974).

City of Santa Rosa v. *EPA*, 534 F.2d at 150, 154. The court expressed its concern with the effects of its ruling, but concluded that only Congress could come to the rescue:

> The situation in which petitioners find themselves is not an enviable one. Absent Congressional action, their constituents face substantial economic loss and social

disruption as the result of gasoline reductions. We sympathize but we have no authority to alter the regulation. The relief which petitoners seek is in the hands of Congress, not the Courts.

Id. at 155. *See also Public Citizen* v. *Young*, 831 F.2d. 1108 (D.C. Cir. 1987).[15]

The argument in support of Interpretation 1—requiring immediate attainment of the ozone and carbon monoxide standards—is that Congress set firm, fixed statutory deadlines for SIPs and FIPs, and that, as the Court found in the *Santa Rosa* and FWPCA cases, Congress intended to be the sole dispenser of relief from these deadlines.

On the other side of the ledger, calling for immediate attainment is inconsistent with past Congressional reaction when deadlines under the Clean Air Act were missed. As stated earlier, Congress' reaction in 1977 to the failures of 1970–77 was to create new planning periods, not to demand immediate attainment.

Furthermore, the situation we confront here is different from what the Ninth Circuit encountered in 1976 when it decided the *Santa Rosa* case and the Third Circuit encountered in *Bethlehem Steel.* First, unlike those cases, the statutory deadline has passed. And second, we are not writing on a blank slate. We now know that when Congress *did* consider the problem of the statutory deadlines in 1977, it did *not* require immediate attainment.

Another argument against requiring immediate attainment is that it is inconsistent with a key element in the legislative history—the statements evincing a concern with avoiding serious economic disruption.[16] Indeed, when Congress discussed the amount of economic hardship it expected to result from the Act, it appears that it did not want to impose harsh measures on those areas making reasonable efforts to improve air quality. For instance, Senators Muskie, Stevens, and Gravel, in their colloquy concerning Fairbanks, Alaska, took the position that, as long as an area made reasonable efforts, even if it could not attain "by the year 2000", a construction ban would be imposed, but otherwise, that area "will not get hurt". 123 Cong. Rec. 18,476. (June 10, 1977) (statements of Sens. Gravel, Stevens, Muskie), *reprinted in* 3 Leg. Hist. 1063. But, as explained below, the requirement of immediate attainment would, if enforced, to a cataclysmic event for Los Angeles, and far harsher than anything Muskie and the Alaska Senators seem to have anticipated or desired for any area under Part D.

One could find further arguments against the immediate attainment option by analogizing to the judicial doctrines avoiding absurd results, impossibilities, and conflicts between statutory provisions. As set forth earlier, even where the meaning of a statute is plain (and here, as shown above, it is not), if applying that meaning would lead to "absurd or futile results", a court may look "beyond the words to the purpose of the Act", and follow that purpose rather than the literal words, unless the legislative history shows that Congress intended such results. *United States v. American Trucking Association,* 310 U.S. at 543. *See also TVA v. Hill,* 437 U.S. at 184 n. 29, Similarly, the courts seek to avoid an interpretation that will result in a practical impossibility. *NRDC* v. *EPA,* 824 F.2d at 1154. Here, where Congress does not appear to have provided plainly and intentionally that FIPs produce immediate attainment, the case is even stronger for trying to avoid this outcome, and reaching a more reasonable accommodation among the conflicting statutory purposes. A FIP whose goal was instant attainment would have to prohibit immediately operation in the Basin of nearly every fossil-fueled vehicle, prohibit almost all industrial and commercial VOC emissions, curtail drastically most agricultural activities producing VOC emissions, and ban many consumer products containing reactive solvents. Such a plan would shut down major business activity, halt traffic, and dramatically restrict all aspects of social and economic life. Implementing and enforcing such drastic measures may well be impossible, and could prevent satisfaction of the basic necessities of life—including food, shelter, and medical services.

Enforcement of the FIP measures would begin upon the effective date of the FIP promulgation, usually 30 days following publication of the rule in the **Federal Register.** The disruptive consequences and enforcement difficulties of immediate FIP prohibitions would be more extreme than FIP measures that could be phased in over a number of years. There would be no opportunity to transform or relocate industrial and commercial operations, or to identify and develop any alternatives to the existing transportation systems. Even the development of effective emergency systems to provide necessary services and commodities to Basin residents might be preempted by a FIP that required instant attainment. Consequently, the residents of the area would face the destruction of daily life as they know it, and the likely prospect of mass evacuation.[17]

Another difficulty with a plan calling for immediate attainment is that it may conflict with other statutory requirements concerning enforcement. A literal interpretation of section 110(c)(1) would require, through section 110(a)(2)(D), that the FIP include "a program to provide for the enforcement of emissions limitations * * * as necessary to assure that [the NAAQS] are achieved and maintained." In addition, section 172(c), which applies to extension areas, like the South Coast, would require an SIP submitted in 1982 to "contain enforceable measures to assure attainment" by the end of 1987. By extrapolation, the requirements of section 172(c) could also be read to apply to a FIP promulgated after 1987. One of the requirements of section 110(a), applicable to SIPs, is that a plan must provide:

> Necessary assurances that the State will have adequate personnel, funding, and

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[15] In holding that the FDA lacks the authority to grant, with respect to carcinogenic dyes, a *de minimis* exception to the Delaney Clause of the Color Additives Amendments, the D.C. Circuit held:

> We believe that * * * Congress intended that if this rule produced unexpected or undesirable consequences, the agency should come to it for relief. That moment may well have arrived, but we cannot provide the desired escape.

Public Citizen v. *Young,* 831 F.2d at 1122.

[16] For example, Senator Muskie pointed out that:

> The advantage of the two-tiered approach, with a possible 10-year extension for attainment, is to provide a longer time frame to plan for and phase in necessary controls so as to minimize disruption.

123 *Cong. Rec.* 26,847 Col. 2 (August 4, 1977) (statement of Sen. Muskie), *reprinted in* 3 Leg. Hist. 356. Senator Stafford noted that "existing dates for attainment are extended to avoid economic or social hardships." 123 Cong. Rec. 18,038 col. 2 (June 8, 1977) (statement of Sen. Stafford), *reprinted in* 3 Leg. Hist. 770.

[17] For similar reasons, EPA recently rejected immediate attainment as a criterion for measuring the SIP for carbon monoxide in Maricopa County, Arizona. In its final notice, EPA stated that the Act does not require SIPs to provide for attainment more quickly than the general formulation in section 172(a)(2) ("as expeditiously as practicable"), provided that the three-to-five-years criterion that the Agency was applying at the time was satisfied.

53 FR 30,233 (August 10, 1988). EPA stated:

> If EPA were to adopt [the] position that post-1987 planning should provide for attainment at the soonest time, many post-1987 non-attainment areas would have to resort to draconian measures with drastic social and economic impacts—such as plant closings, gasoline rationing and mandatory no-drive restrictions—simply because such measures are physically available to bring about attainment. EPA does not believe that Congress, if it had addressed the post-1987 non-attainment situation now being faced, would have required such a result, even after passage of the Part D dates. EPA believes that Congress would instead have regarded the "as expeditiously as practicable" requirement to be still in place, albeit bounded in situations, such as that of Maricopa County, by fixed attainment deadlines.

Id. at 30,233. *See also American Lung Association* v. *Kean,* 18 Envt. L. Rptr. 20317 (D. N.J. 1987).

authority to carry out such implementation plan.

Section 110(a)(2)(F)(i), 42 U.S.C. 7410(a)(2)(F)(i); 172(b)(7), 42 U.S.C. 7502(b)(7). When EPA prepares an FIP, arguably it also must comply with this section, and demonstrate that it, rather than the state, possesses means adequate to carry out the plan.

But enforcing a federal plan calling for immediate attainment would be highly problematic. Implementation of such a plan would call for massive and intrusive enforcement efforts—to halt traffic, shut down businesses and schools, and restrict gasoline—and could well require resources beyond those available to EPA. Although the federal government as a whole might be able to call on the National Guard, state and local police, FBI, and contractors, these enforcement efforts may require resources beyond what the federal government can muster, given its other responsibilities. Thus, although it may be possible to draft on paper a plan requiring immediate attainment, EPA may not be able to comply with section 110(a)(2)(F)(i)'s mandate that EPA provide assurances that it can carry out such a plan. Arguably, EPA should avoid construing the FIP deadline term of the statute in a way that brings it into conflict with these enforceability requirements. *Citizens to Save Spencer County v. EPA*, 600 F.2d at 844.

EPA's experience in Los Angeles in the 1970's when it attempted to impose an FIP containing gasoline rationing and other drastic control measures, dramatically illustrates the folly of enacting regulations that are virtually unenforceable. (See section II. D. 2, *infra*).

2. Interpretation 2: Attainment in Three to Five Years

In EPA's November 24, 1987, ozone policy proposal, the Agency proposed an option other than immediate attainment. The Agency proposed the view that Congress intended EPA, in formulating FIPs for areas without approved Part D plans, to provide, not necessarily for immediate attainment, but instead for attainment as expeditiously as practicable within three to five years. As noted above, section 110(c) specifies that an FIP must meet the requirements of section 110. That section, in turn, contains the fundamental requirement that SIPs provide for attainment as expeditiously as practicable, but within three to five years after approval. *See* section 110(a)(2)(A) and (E), 42 U.S.C. 7410(a)(2)(A) and (E). Section 110 also implicitly contains the 1987 attainment deadline in Part D, but that deadline is arguably now a nullity by virtue of its passage, and the only remaining guidance in section 110 is the three to five year boundary. Since Congress intended that boundary to govern original SIPs and arguably also SIP revisions in response to findings of inadequacy under section 110(a)(2)(H), it arguably would have wanted the same boundary to govern post-1987 SIPs, absent operative language to the contrary. Indeed, the basic pattern of Congressional behavior has been to allow attainment date extensions on the order of five years.

As noted above, when Congress enacted the 1977 Clean Air Act Amendments, it allowed in Part D two additional planning periods for extension areas—the first period, about four years, to apply all "reasonable available" measures, and the second, roughly three to five years, to supplement those measures. Since enough time has elapsed for the South Coast already to have adopted all "reasonable available" measures, an analogy to the second Part D planning period appears most appropriate to the current situation. Following this reasoning, Congress arguably would have intended post-1987 FIPs to attain in three to five years.[18]

The strengths of this approach are that: (1) It is grounded in the language of the statute and in a close analogy to the periods specified in both section 110(a) and Part D; (2) as we have noted above, it adopts an approach somewhat akin to the approach Congress took in 1977 when attainment deadlines were missed; and (3) it conforms to the elements of the legislative history indicating Congress intended firm, near-term planning deadlines that forced some changes in technology and lifestyle.

If these factors were sufficient to amount to a "clear" Congressional intent that EPA create new three to five year planning periods, that would be the end of the matter. *Chevron*, 467 U.S. at 843. The Agency doubts, however, that that is the case. The statute is ambiguous, and the evidence in the legislative history is, at best, conflicting. If EPA adopted this Interpretation, rather than Interpretation 1, it would be assuming authority to extend the 1987 statutory deadline. As we noted above, Congress in the 1977 Amendments appeared to anticipate the need to provide relief from some of the later deadlines in the Act—and to reserve to itself the power to dispense such relief. But the legislative history also shows that Congress thought it would confront this issue *before* the deadlines had passed—not after. For example Senator Dominici stated, after describing the two-stage procedure in Part D (which calls for submission of a plan in 1979, followed by a subsequent submission, if necessary, in 1982):

> I clearly understand that the result of the five-year part [1982 plan to attain in 1987] may bring back issues to us in terms of attainment. But I believe this will give the opportunity for growth, yet assure that we are pushing with a maximum clean-up during that interim, *and previous to the expiration of the five years, only Congress could make some judgment as to the next goal.*

Transcript, Mark-Up, Clean Air Act Amendments at 15 (May 3, 1977), (emphasis added).

In addition, there is some evidence, as discussed above in connection with immediate attainment, that Congress did not anticipate and therefore did not intend to stimulate plans that would have catastrophic consequences if put into effect. As explained above and in Appendix A to this notice, a three-to-five-year FIP for the South Coast would be nearly as draconian as an immediate FIP, given the extent of the pollution problem.

Thus, one can raise two quite different objections to the five-year FIP interpretation. The first objection is based on the elements in the legislative history indicating Congress' intent to be the sole authority for extension of deadlines. This objection argues in favor of the immediate attainment interpretation, since it is premised on a lack of EPA power to extend the deadline beyond the immediate attainment. The second objection, on the other hand, reads the relevant case law and history to confer upon EPA some power to adopt a new attainment date, but holds that the consequences of promulgating a five-year FIP are—as they were for immediate attainment—so harsh that Congress could not have intended them.

As we noted in our discussion of an immediate attainment FIP, even where statutory language is plain, courts avoid constructions that lead to absurd or radically unreasonable results. There is even more reason to steer clear of such intolerable consequences when, as here, the statute itself does not command them and where a major theme of the legislative history is minimization of economic and social disruption.

In terms of its destructive force on the economy of the South Coast, there is little to distinguish a five-year FIP from

[18] EPA can only venture its best judgment as to what Congress would have us do now. Setting and changing deadlines in the Act is a function reserved for Congress.

one requiring immediate attainment. Such a plan must include restrictions and prohibitions that effectively prevent from operating within the Basin, in the fifth year, almost all fossil fuel-powered vehicles; eliminate almost all aircraft and marine vessels from the Basin; prohibit almost every industrial source from emitting any VOCs; dramatically reduce VOC emissions from commercial and residential solvents and fuel combustion; and substantially limit agricultural VOC emissions.[19] A five-year FIP would impose requirements so draconian as to remake life in the South Coast Basin. Under a five-year FIP, the population would effectively face a choice of resettling elsewhere, or living in almost complete dependence on the governing authorities for life's basic necessities.

Moreover, as was the case for a FIP requiring immediate attainment, there would be serious questions of enforceability and potential conflicts with other statutes. A five-year FIP, if enforced, would prohibit such essential elements of daily life as transportation to work, school, ambulance service, and mail delivery. It inevitably would interfere with rights protected by other statutes.

One might content that the creation of a FIP that, when fully implemented, would produce absurd results, might not in itself be considered an absurd result. This is so, the argument would go, because Congress could always look at the FIP EPA has prepared, and "veto" it with new legislation before the FIP actually takes effect. But even if this is the case, one cannot discern in the legislative history a "clear" Congressional intent that EPA go through the exercise of creating a five-year plan after 1987. Without clear instructions from Congress, and based on EPA's experience in developing a FIP for Los Angeles in the 1970s, arguably EPA should not develop a plan that would impose dire consequences upon a major center of economic and social activity. Such an effort would likely be futile and might also seriously undermine the local effort to adopt its own plan.

3. Interpretation 3: Longer-Term Attainment FIP

To adopt an interpretation that leads to the harsh results discussed above, one must conclude that Congress intended to require quick attainment, no matter what the cost or the consequences. But, one might argue, this vision of the Clean Air Act reads out important elements of the statute, and its legislative history. One could also argue that, in the circumstances presented here, Congress would permit the Administrator to decide upon the earliest attainment date that would avoid such results, avoid a conflict within the statute, and carry out the technology- and lifestyle-change forcing goals of the law.

EPA might consider interpreting the statute to require attainment "as expeditiously as practicable",[20] and by a fixed date. Moreover, other terms of the statute offer some implicit support for a longer-term attainment date, since, as noted above, section 110(a)(2) and Part D criteria assume significant ongoing economic activity.

The legislative history, as we have seen, also reflects deep concern with the need to balance progress towards clean air with avoidance of severe economic disruption. It is therefore unlikely that this Congress would have intended EPA to engage in a FIP process that would overwhelmingly intrude upon and transform a local area.

The principal appeal of the longer-term FIP approach is that it provides the best means of reconciling the twin but conflicting policies embodied in the statute—that is, it would allow EPA to develop a plan that provides for progress in air quality, but does not defeat itself with unworkable or preposterously severe requirements. This interpretation would require attainment at the earliest date possible, but without the severe disruption that a shorter-term plan would produce. An outline of what a longer term FIP would include appears in Appendix A.

Although the case before us is without direct precedent, we find support for this third approach in court decisions in analogous situations. Where statutes contain conflicting provisions, or conflicting statutory purposes, courts have held that EPA must harmonize these provisions as best it can, by giving effect to as much of the purposes of the conflicting provisions as possible. *See Citizens to Save Spencer County v. EPA*, 600 F.2d 844 (D.C. Cir. 1979); *NRDC v. Train*, 510 F.2d 692, 712 (D.C. Cir. 1974) (allowing extensions of statutory deadlines for EPA issuance of regulations when EPA demonstrated impossibility; setting new deadlines by reference to the purpose of the statutory provisions).

As explained above, the requirement that a FIP "provide for attainment as expeditiously as possible" and by a near-term date (section 110(a)(2)(A)) may conflict head-on with the requirements in sections 110(a)(2)(D) and 110(a)(2)(F) that such a plan be enforceable. Here, as in *Chevron*, this third interpretation could represent "a reasonable accommodation of manifestly competing interests * * *." 467 U.S. at 865–866.

Another important aspect of a longer-term FIP is that it might help vindicate Congress' interest in reinforcing state and local responsibility for air quality. A longer-term FIP could complement, rather than ignore or undermine, ongoing state and local efforts to develop a SIP.

Consideration of the long-term FIP interpretation raises important questions about how SIPs should be treated in similar circumstances: where the Act's firm deadline is past; Congress has failed to provide the relief it expected to provide; and short-term attainment is impossible. Even if one decided that Interpretations 1 or 2 would be most appropriate for determining post-1987 deadlines for SIPs, one might still argue that longer deadlines are permissible for FIPs. Where SIPs are concerned, the legislative history shows that Congress explicitly contemplated that, at least prior to 1987, short term deadlines would apply. The history arguably reveals a Congressional understanding that, if these deadlines proved too harsh to meet, the major consequence would be the imposition of a construction ban, a result that Congress addressed and did not find absurd. But the statute does not provide that the construction ban can be imposed as an alternative to writing the required FIP, and the legislative history demonstrates that the promulgation of a short-term FIP for an area like the South Coast—either before or after 1987—received no attention when Congress amended the law in 1977.

But one might also conclude that the better approach is one that treats SIPs and FIPs equally. That is, if impossibility, absurd results, and the failure of Part D to operate as anticipated, suggest that it would be an *unreasonable* accommodation of the Act's purposes for EPA to prepare a near-term FIP, a state, too, should be relieved of the burden of preparing and enforcing a near-term SIP.

In EPA's proposed ozone strategy, the Agency suggested a rationale for requiring SIPs to demonstrate attainment within three to five years. 52 FR 45050 (November 24, 1987). A variant of that suggestion would be to apply the three-to-five year date as a general rule.

[19] A description of the types of measures that a five-year FIP would include appears in Appendix A to this Notice.

[20] This formulation corresponds to the goals set forth in sections 110 and 172 of the Act.

but to exempt states from that requirement where they can make the same kind of showing that Interpretation 3 argues would relieve EPA of its duty to prepare a short-term FIP. Under this approach, in circumstances where either SIP or FIP attainment within a three- to five-year period would be impossible or lead to absurd results, EPA would rely on the statutory requirement that attainment occur "as expeditiously as practicable" to derive a fixed attainment date and to identify reasonable further progress. Sections 110(a)(2)(a) and 172(a)(1). A final ozone policy would identify what reasonable further progress would mean under these circumstances. A state that made the proper showings of impossibility or absurd results, and submitted a SIP that met all the elements of the ozone policy, could then obtain EPA's full approval for its SIP, even if the attainment date extended beyond five years.[21] Even if EPA were unable to fully approve such a state plan, it is not clear that the courts would demand that EPA impose a FIP in such circumstances. If EPA reasonably concluded that the SIP measures were as stringent as any plan EPA could justifiably issue, there would no point in having EPA issue a FIP, since the FIP would merely duplicate the SIP.

The main objection to the longer-term FIP approach is that, like Interpretation 2, it makes EPA, instead of Congress, the dispenser of relief from statutory deadlines. Arguably, under the Clean Air Act only Congress is authorized to make this kind of choice.[22]

Conclusion

EPA here finds itself confronted by a most painful dilemma—one that clearly needs a Congressional solution. Absent action by Congress, however, EPA must do its best to achieve a result most consistent with the language, history, and purposes of the Clean Air Act.

If EPA interprets the Act to permit a FIP attainment deadline significantly beyond 1987, it may stretch the boundaries of the statute in an unprecedented way, and arguably assume legislative-type authority to direct the pace of technological, economic, and environmental change in the South Coast. The scope of any plan attempting to address the pollution problem in the South Coast must be equal to the enormity of that problem. Should EPA determine to prepare a long-term FIP for the South Coast, it would no doubt encounter great practical difficulties in developing and implementing such a massive plan.

But EPA would also face serious legal and practical problems if it undertook a plan requiring immediate and short-term attainment. The immediate and short-term FIP interpretations are arguably more in keeping with the original lapsed deadline, and with Congress' expressions of intent to be the provider of relief if deadlines proved too harsh. But these interpretations, if imposed here, would wreak a level of economic and social disruption that is likely beyond anything Congress would have imagined would be imposed without some mitigation.

Thus, there appears to be no easy solution to the problem before us. EPA solicits comments on the questions raised in this Notice, and on the approaches EPA might take to preparing a FIP for the South Coast.[23]

Dated: November 28, 1988.

Lee M. Thomas,

Administrator.

Appendix A—Description of Five-Year and Longer-Term FIPs

This Appendix first explores likely components of a five-year FIP. It then describes possible elements of a longer-term FIP. The discussion of the five-year FIP focuses on drastic prohibitions that would be required on transportation, industrial processes, and consumer products, as well as out-of-Basin effects of refinery shutdowns, and other secondary effects throughout the country. The discussion of the long-term FIP considers several approaches to promulgating and implementing a longer-term FIP, perhaps in combination with the current South Coast planning process. EPA solicits comments on these possible approaches.

A. Five-Year Federal Implementation Plan

SCAQMD and SCAG estimate that the South Coast must reduce VOC emissions by 80 to 90 percent to attain the ozone standard. A five-year attainment plan for the South Coast, however, leaves little room for choice among measures, insufficient lead time for the development of the necessary technologies, and hence no opportunity to minimize the most severe social and economic impacts.

1. Likely Measures

To achieve the extraordinary emissions reductions necessary for attainment in the Basin within five years, any plan for the area must wrest substantial reductions from every controllable source of emissions. Such a plan must include restrictions and prohibitions that effectively prevent from operating within the Basin, in the fifth year, almost all reactive hydrocarbon-based fuel-powered vehicles; eliminate almost all aircraft and marine vessels from the Basin; prohibit almost every industrial source from emitting any VOCs; dramatically reduce VOC emissions from commercial and residential solvents and fuel combustion; and substantially limit agricultural VOC emissions.

Assuming that attainment of the ozone standard requires an 80 to 90 percent reduction in VOC emissions, and using the draft SIP's 1985 base year emissions inventory, the following list of possible federal prohibitions gives a partial example of a FIP that could bring the area into attainment of the ozone standard. The fuel limitations applying in the ozone FIP to the mobile source category should also reduce total CO emissions to a level where attainment of the CO NAAQS throughout the Basin would be achieved. The list set out below represents one possible combination of control measures with sufficient cumulative emissions reductions to attain the ozone and CO NAAQS. Such a potential FIP would achieve the required emissions level by applying, in general, an across-the-board reduction to all controllable source categories.

Full implementation of the FIP might be suspended until the fifth year unless EPA determines that: (1) Inadequate progress is occuring under the SIP, or (2) earlier implementation of particular FIP measures is necessary, as a practical matter, in order to ensure that all needed emissions reductions are achieved by the end of the fifth year.

The FIP would apply within the Counties of Orange, Los Angeles, San Bernardino, and Riverside (alternatively, only within the nonattainment portion of the counties) and within coastal waters extending 3 miles from the onshore county boundaries. The entire Basin must demonstrate attainment at the end of the the fifth year.

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[21] Under this rationale, an attainment deadline of three-five years would be derived from the text of section 110(a)(2)(A) and by analogy from Part D; EPA would, however, read the Act as implicitly authorizing a long-term deadline where compliance with that statutory deadline would be impossible or would produce absurd results. There is, however, another possible rationale for a long-term attainment deadline in this circumstance. EPA could conclude that the Clean Air Act contains no uniform, nationwide deadline applicable now to the South Coast and to the other areas that failed to attain the ozone or CO NAAQS by December 31, 1987. EPA would reason that the attainment deadlines in Part D (1982 or 1987 for an area with extreme nonattainment) applied only to the SIP revisions for which Congress also specified the submittal deadlines (respectively, 1979 and 1982); that Part D does not authorize EPA to set a nationwide attainment deadline after 1987; and that section 110's deadline of three-five years applies not to a plan revision developed after a SIP call or disapproval, but only to the initial SIP following NAAQS promulgation (or NAAQS revision). Under this rationale, a long-term deadline in the South Coast would satisfy the residual mandates, in sections 110 and 172, that attainment occur by a fixed date that is set, given local circumstances, so as to provide for such attainment "as expeditiously as practicable."

[22] Under the rationale for Interpretation 3 set forth in fn. 21, however, EPA would make this legislative choice for the South Coast under its express authority to require or prepare plan revisions that provide for attainment as expeditiously as practicable. The FIP would not override any nationwide deadline since, under this rationale, those deadlines specified in the Act have expired or are inapplicable in this circumstance.

[23] EPA has included at the end of today's notice Appendix A, describing different FIP approaches, and Appendix B, a Technical Appendix describing other issues that the Agency must face in creating a FIP for the South Coast. The Agency solicits comment on these Appendices as well.

The overwhelming impacts of a five-year plan might be somewhat lessened by phasing in implementation over the five-year period. For example, a phased five-year approach could progressively eliminate motor vehicle use of reactive hydrocarbon-based fuels in the Basin, such as at a rate of 20 percent per year. A modest degree of prohibition on products, activities, and fuels might stimulate public awareness of, and committment to, less polluting options. Measures such as a prohibition on multiple car registration, a requirement for no drive days, and mandatory ridesharing at a more stringent level than currently required by the SCAQMD might foster some incremental adjustments in vehicle dependency, by stimulating the development of additional commute alternatives, the elimination of unnecessary vehicle use, and the relocation of jobs and housing. However, EPA does not expect that such adjustments could allow the great majority of residents of the Basin to cope with the ultimate fifth-year prohibition on essentially every form of private vehicle use, combined with the effective elimination of most industrial and commercial opportunities for employment in the Basin.

• *Fuel restriction for motor vehicles:* The FIP would prevent the sale or use of any reactive hydrocarbon-based fuel in all classes of on-road motor vehicles, with the exception of certain vehicles and specified vehicle uses determined to be essential to the public interest. Depending on the emissions still remaining from the motor vehicle category as a result of allowing this exemption, the FIP might need to require exclusive use in the exempted vehicles of such low-emitting fuels as methanol, propane, compressed natural gas, or liquified natural gas in lieu of high-emitting fuels such as gasoline or diesel fuel. Since substantial emissions occur from motor vehicle traffic into the South Coast, the FIP restriction would need to prohibit this traffic from entering the area.

• *Fuel restriction for other mobile sources:* All other mobile sources (such as farm and non-farm equipment; boats and vessels; commercial and civic aircraft; and railroads) would be prohibited from using any fossil fuel, unless the source fell into an exempt category, because it was vital to the public interest.

• *Fuel restriction:* The FIP would prevent the manufacture, transport, storage, sale, use, and disposal of any reactive hydrocarbon based fuel within the basin, unless exempted as essential to the public interest. The restriction would effectively prohibit refining, storage, and transportation of liquid and gaseous fossil fuels, and combustion of solid, liquid, and gaseous fossil fuels and resource recovery derived fuels.

• *Industrial and Commercial Solvent and Lubricant restriction:* the FIP would prevent the manufacture, transport, storage, sale, use, and disposal of any reactive hydrocarbon based solvent, lubricant degreaser, surface coating, ink, adhesive, fountain solution, thinner, retarder, filler, surfactant, and resin. (Again, a partial exemption for uses in the public interest might be allowed.)

• *Restriction on VOC emissions from manufacturing:* The FIP would prohibit almost all VOC emissions from manufacturing activities, unless EPA determined that attainment could be achieved through a less stringent requirement. The FIP restrictions probably would need to be sufficient to reduce total VOC emissions from all manufacturing facilities by as much as 90 percent from current SIP levels. Affected industries would include not only manufacturers of chemicals, pharmaceuticals, cosmetics, and rubber products, but also most small users of VOC-emitting raw materials.

• *Restriction on consumer product solvents and aerosol propellants:* The FIP would either prohibit all products with any VOC emissions or establish VOC limitations to achieve at least a 90 percent reduction from the level of existing VOC emissions. Consumer products affected by this prohibition would include: paints and related products; health and beauty products; automotive polishes and lubricants; cleaners and waxes; and household and garden pesticides.

• *Restriction on pesticides and herbicides:* The FIP would establish VOC limitations to achieve at least a 90 percent reduction from the level of existing VOC emissions.

Unfortunately, the full range of measures in the South Coast plan are clearly not available in a five-year plan because of the time needed to develop or implement many of those measures. In order to accomplish attainment within five years, any control plan would drastically alter the life of everyone in the Basin. Indeed, a five year attainment plan would eliminate practically any possibility of economic survival for most residents within the Basin, either because of the disappearance of jobs from the Basin or the inaccessibility of jobs to workers living within the Basin.

Typical everyday life in the Basin generally consists of homelife, including recreational activities, time at work, and time traveling. Every aspect of a person's life would be changed dramatically by a five year plan. The following discussion will allow the reader to more clearly envision the sort of changes that will be necessary.

a. *Transportation.* As described previously, a significant portion of the basin's ozone problem, and essentially all of its CO problem, are due to mobile sources. Under a five-year plan, emissions from almost all vehicles must be eliminated by the fifth year in order to achieve the needed reductions from this emissions category. EPA believes that it is necessary and appropriate to exempt from these restrictions, at least partially, certain classes of vehicles, such as mass transit buses, trains, and vans; police cars; emergency response vehicles; fire engines; garbage collection trucks; and delivery trucks of food and medical supplies.

Any exemption for these vehicles, however, places an even greater reduction burden on other sources of vehicular emissions. The only way to realize such a reduction would be to prohibit entirely the use of all non-essential pollutant-emitting vehicles, since even vehicles burning relatively clean fuels, such as methanol, propane, compressed natural gas, or liquid natural gas, could cumulatively emit enough emissions of hydrocarbons, nitrogen oxides, and carbon monoxide to cause continued nonattainment.

A plan that eliminated from the area every privately-owned vehicle except those that are completely clean (i.e., electrified vehicles) would deny access to employment to all but those capable of working at home or commuting to work by mass transit, vanpool, electric vehicle, bicycle, or foot. Since the average home-to-work commute in the Basin is more than 20 miles round trip, it is reasonable to assume that only a small fraction of the current work force would have the ability (either for physical reasons or from critical time constraints) to commute by bicycle or foot. Furthermore, the opportunities to telecommute are not expected to increase dramatically within five years, though they may develop significantly over the next 20 years. All of those jobs heavily dependent upon the use of cars or trucks (including many of the services and trades) would be impossible to pursue, assuming that the FIP were unable to exempt or partially exempt these vehicles from the fuel restriction.

If the non-commute transportation modes of the residents of the South Coast were effectively limited by the FIP to mass transit, vanpool, bicycles, and foot, this severe restriction on mobility would drastically circumscribe most opportunities for shopping; health care; social, service and recreational activity; and general education and vocational training. Thus, the severely restricted transportation options of the five-year FIP would profoundly and comprehensively diminish the quality of life in the area. This restriction on the public's non-commute activities would contribute still further to the general economic decline of the area by its extreme impacts on service, recreational, and commercial enterprises.

If a five-year attainment FIP were promulgated, greatly expanded mass transit systems could not be reasonably anticipated, since the general economic decline of the area would, if anything, require cutbacks in public subsidies for transit operation and expansion. Expanded service would be particularly unlikely if the plan needed to prevent mass transit vehicles from burning high-emitting gasoline or diesel fuel. Even if these factors were absent, it is clear that significant expansions to urban mass transit systems require lead time for implementation beyond the five-year time frame.

Under any ozone attainment plan in the South Coast, electric vehicles ultimately may be the only feasible motorized alternative to a total dependence on mass transit. There is no evidence, however, that more than a small portion of public, private, or commercial transportation needs could be met by electric vehicles within a five-year time frame. This is due to the enormous costs of fleet conversion; the need to improve and perfect technologies; the lengthy construction period for developing electrified mass transit; the time requirements of vehicle manufacturers to redesign, retool, and produce significant numbers of electric vehicles; and the period required for the electric utilities to construct or purchase adequate electric power

generation and distribution systems to meet the radically increased demands for electricity.

A five-year plan would offer no realistic opportunity for clean transportation alternatives to aircraft, locomotives, marine vessels, and heavy duty diesel trucks. Since significant emissions reductions appear to be necessary from these transportation categories, elimination of most commerce is likely to result. For example, it is unlikely that the many industries dependent upon these transportation sources would be able to continue operation in the Basin.

The five-year FIP would have national and possibly global implications if it did eliminate these current means of transportation, since the Basin includes the most active commercial port area on the West Coast. In addition, air, truck, and rail transport into and through the Basin plays a critical role for industry, commerce, and communication in the Western United States.

b. *Industry.* Approximately a quarter of the Basin's VOC emissions comes from industrial and manufacturing facilities. Industrial sources of ozone precursors and CO include both manufacturing facilities that use solvents in their processes and other facilities, such as fossil-fuel fired boilers, turbines, internal combustion engines, and furnaces that emit ozone precursors and CO directly as a result of the combustion process, manufacturing, fabrication, or assembly. In a five-year time frame there is no viable technological or economic opportunity to eliminate emissions from many if not all of these facilities without effectively requiring shutdown. The draft South Coast plan contemplates the eventual elimination of combustion sources and an almost total replacement of solvent emissions. It envisions this change as taking place over 20 years through a process of forced technological advances (most prominently, in the area of solvent composition and use), expanded energy conservation projects, and almost total electrification of the area, with all generating capacity located outside of the basin.

In order to obtain the needed reductions from industry, a five-year plan must not only secure an 80 to 90 percent reduction in VOC emissions from existing industry, it must also prohibit economic growth of any kind. Remaining sources that are not currently operating at full capacity would be prohibited from increasing production, because, to do so, they would generate more emissions.

It would also be necessary to ban the use of reactive solvents in coatings, degreasing, and other uses or, at the least, apply restrictions that would achieve an additional 90% reduction in VOC emissions from industrial activities. The largest contributor to point source VOC emissions are of surface coating operations whose emissions come from the evaporation of the solvent contained in the coatings. In a five-year time frame it will not be possible for technology to totally replace solvent-based coatings; thus, it will be necessary to ban the use of coatings which cannot be changed. Major industries in the basin such as paint manufacturers, paint contractors, auto assembly plants, wood furniture manufacturers, can and coil coaters, paper coaters, printers, aerospace, and semiconductor and electronics will be forced to discontinue or drastically curtail operations, with the inevitable result of massive unemployment and the ripple effects of unemployment on the area's economy.

c. *Out-Basin Impacts of Refinery/Marine Terminal Shutdowns in the Basin.* Southern California is the largest petroleum refining and distribution area on the West Coast. Some of the refined petroleum products now produced in the Basin or produced elsewhere but imported into the Basin through Los Angeles harbor are subsequently exported to markets outside the Basin. Thus, federally required shutdowns of petroleum refining and trans shipping operations in the South Coast Air Basin would have severe effects not only in the Basin, but in other areas as well.

Virtually all of the gasoline, diesel fuel, jet fuel, and heating oil used in Yuma, Arizona; Las Vegas, Nevada; and the Imperial Valley of California is shipped from the Basin via the Southern Pacific Pipeline and the Calnev Pipeline. There are no refineries outside the Basin which can supply these landlocked markets via existing pipelines. A shutdown in the Basin would therefore require that new pipelines be built or that petroleum products be shipped by tank truck on public highways or by rail car, resulting in much higher transportation costs. Even if refineries in other areas could increase production to satisfy these markets (which fortunately are relatively small), prices to consumers would increase substantially.

A portion of the petroleum products used in San Diego, California, also are delivered via pipeline from producers and/or marine importers located in the basin. San Diego presently receives shipments via vessels as well, and these would presumably be increased at some cost for facility expansion.

A very serious situation would also develop in Phoenix and Tucson, Arizona and outlying areas that receive deliveries by tank truck from these cities. About two-thirds of the refined products used in or distributed from these two large and rapidly growing urban areas come from the South Coast Air Basin via pipeline. The remainder now comes via pipeline from El Paso, Texas but the capacity of this pipeline is too limited to supply the full demand. The four refiners with access to this pipeline (located in El Paso and Odessa, Texas and Artesia, New Mexico) may also lack sufficient processing capacity and/or crude oil supply to compensate for loss of product from Basin sources, even if transporting the additional volume to Phoenix and Tucson were not a problem.

Finally, a number of military air bases in California and Arizona rely on Basin sources for their supplies of jet fuel. Costs would increase and reliability of supply decrease if jet fuel had to be transported by tank truck from other refineries or ports.

d. *Consumer sources.* Almost a quarter of the VOC emissions in the Basin comes from the direct consumer use of certain products and related services. Products affected by a prohibition would include paints, primers, varnishes, lubricants and silicones, hair sprays, car polishes and waxes, room deodorants and disinfectants, moth control products, personal deodorants, auto antifreezes, brake cleaners, engine starting fluids, all purpose cleaners, floor waxes, insect repellants, starch and fabric finish, rug and upholstery cleaners, aftershaves, animal insecticides, shaving lathers, perfumes, spot removers, adhesives, insect sprays, caulking and sealing compounds, window cleaners, herbicides and fungicides, suntan lotions, and many other items.

Many of these products are also used by small businesses which provide consumer services, such as drycleaners, painting contractors, automotive and small engine repair shops, printers, barber and beauty shops, bakeries, exterminators, and home and office cleaning services.

In order to achieve the needed reductions from this category, a five-year FIP would have to impose nearly a total ban on the use of these products and related services. While a five-year time frame may be adequate to develop and market some technological alternatives, there would certainly be many products to which the public has become accustomed that would disappear with such a ban. The repercussions from this action would be far-ranging, affecting the consumer and the industries involved. It is unknown at this time whether alternative products can be found in the amount of time available.

A major exemption from this category would be hospitals, health care centers, nursing homes, schools, child day care centers and other facilities where high levels of cleanliness are required to protect the public health. Again, these exempted emissions would need to be offset by tighter restrictions on the remaining sources.

e. *"Multiplier Effect".* As the above consequences are encountered over five years, there will be "multiplier" effects. As industries, auto dealerships, service stations, and other enterprises close and are forced to lay off thousands of people, the companies and employees will try to relocate outside the Basin. The relocation costs will be enormous. The tax base of the Basin's jurisdictions will be depleted, so that those jurisdictions will be hard pressed to provide necessary services (police protection, water and sewer treatment, primary and secondary education, health and welfare benefits, etc.). Since the Basin will become an economically undesirable place in which to live, housing prices will drop dramatically, and most persons forced to leave the Basin will be unable to sell their houses or business, so they will suffer tremendous financial losses. The lending institutions will be unable to resell those properties after the borrowers default on their mortgages, so many of them will also be forced out of business. If these institutions or their depositors are rescued by Federal insurance agencies, the cost of doing so will be felt throughout the nation.

Recreational activities for those remaining Basin residents would be severely limited. Sporting events would be affected by the lack of transportation alternatives. Amusement parks, movie theaters, shopping malls, restaurants, and many other entertainment sources would be forced to close because patrons would be unable to drive to them as in the past. Many other weekend activities

would be eliminated as a result of prohibitions against private vehicle use.

National companies with offices or plants in the Basin may be economically affected so severely that they may go out of business altogether. This would cause a dramatic drain on the national economy from higher unemployment, higher prices, product shortages, and higher taxes to offset lost revenues.

Many other ripple effects may result which cannot be anticipated at this time. However, the above discussion provides a suggestion of the magnitude of impact a five-year FIP would have on the South Coast and the entire country.

B. Possible Approaches to Longer-Term FIP

In the body of this notice, EPA described the draft Air Quality Management Plan (AQMP) that the South Coast Air Quality Management District is developing. This plan contemplates attainment within roughly ten years for CO and twenty years for ozone. The following discussion describes the relative roles that the South Coast and EPA are capable of playing in producing an adequate plan, and how EPA might coordinate its FIP effort with the current South Coast planning process. EPA discusses three approaches it might take to meet its FIP obligation without undermining the state and local planning effort, but in fact building on those efforts. EPA specifically requests comments on all aspects of these options as well as identification of and comments on any other FIP options that EPA should consider.

Option 1: The "Reasonable Progress Backstop" Approach

This approach assumes that EPA's analysis of the South Coast plan as finally submitted as a SIP revision allows the Agency to conclude that the 1997 and 2007 deadlines in the proposed South Coast plan satisfy the "reasonable efforts" requirements of the Clean Air Act. It assumes further that the South Coast AQMP includes a schedule by which the State would submit various measures in legally binding form after the date by which EPA must promulgate its FIP. In that event, EPA could promulgate "backstop" FIP control measures which would be triggered automatically upon EPA's determination of a failure to achieve the progress in emission reductions that the AQMP schedule prescribed. The FIP backstop measures would consist of a predetermined sequence of control measures (possibly adjusted from time to time based on development of new control technologies) that could be implemented to eliminate any shortfall in the emission reductions required in the SIP. It is impossible to predict a complete list of measures that may be considered appropriate at that time, but the list would include at least the kinds of prohibitions and limitations discussed in the previous description of five-year FIP options (e.g., limitations on industrial and commercial activities, fuel sales or usage restrictions). The FIP backstop control measures would be implemented only to the extent necessary to eliminate any shortfall in targeted SIP emission reductions, and would be rescinded if the state and local agencies adopted mitigating control measures of their own.

If EPA decides to promulgate FIP further progress targets that are different from those included in the SIP, this could alter the size of the shortfall to be mitigated by the backstop measures. For instance, EPA might use the targets set in its own post-1987 ozone and CO policy proposal. The proposed policy, which may be revised before final issuance, would require a three percent annual emissions reduction in actual emissions from a fixed baseyear emissions inventory, exclusive of reductions attributable to Federally implemented control measures and certain other "baseline" measures (see 52 FR 45066 and 45091). Alternatively, EPA could select a non-linear schedule extending from the emissions baseline to the allowable emissions level for the Basin, and reflecting EPA's estimation of expeditious progress based upon an ambitious schedule of developing and applying new technologies.

EPA's proposed post-1987 policy allows compliance with the three percent minimum reduction through demonstrations every three years that a nine percent reduction has been achieved (for the first five years, the proposed policy would allow a showing that a fifteen percent reduction has been met). The proposed South Coast plan shows future emissions levels only at the years 2000 and 2010, with interim year emissions levels identifiable only through extrapolation. EPA invites public comment on whether, under this approach, emissions levels should be promulgated, tracked, and enforced on an annual basis, or whether the FIP might prescribe emissions levels on a less frequent basis (such as biennially or triennially).

Under the various versions of this approach, the FIP could promulgate specific basinwide emissions levels for interim years leading to eventual attainment. The emissions levels could be expressed as basinwide emissions in tons per day representative of typical summer weekday conditions for ozone and representative of typical winter weekday conditions for CO. In the case of ozone, the basinwide emissions could be prescribed for NO_x as well as volatile organic compounds (VOC), if EPA concludes that reductions in emissions of NO_x (a precursor to ozone, along with VOC) are necessary or cost-effective to prescribe.

This approach requires that EPA keep close watch on the progress the South Coast achieves as it implements the SIP. The FIP might include a special provision requiring from the State timely annual reports on progress in achieving emissions reductions from individual control measures. The FIP might also require the State to track basin-wide emissions increases and decreases in accordance with detailed EPA instructions and then calculate actual emissions for the basin. EPA may also need to impose some specific record keeping and reporting requirements for sources, transportation agencies, and other jurisdictions to assist in monitoring activity levels. With or without these requirements for data collection, EPA would remain responsible for determining the emissions levels in the basin and whether, and to what extent, surplus emissions exist.

Option 2: "SIP Backstop" Approach

The "SIP Backstop" option is similar to Option 1 but uses, as a measure for progress, the State and local adoption schedule and implementation of control measures, rather than the annual emissions ceiling in the SIP. Under this option, backstop measures promulgated in the initial FIP (or as subsequently adjusted) would become effective automatically if the State and local authorities failed to adopt either the SIP rules or substitute control measures with equivalent emissions reductions. As in Option 1, backstop measures would be rescinded if and when the State or local agencies adopted mitigating measures on their own.

Option 3: SIP Approval in Lieu of FIP

As discussed in the body of this notice, EPA believes that approval of a state or local air quility plan is far preferable to EPA's promulgating a FIP, and EPA strongly supports the South Coast AQMP development process now underway. The proposed AQMP, however, relies heavily on the development of future technologies, funding mechanisms, governmental infrastructures, and long-term societal adjustments. Inevitably, many of the most significant AQMP measures are represented largely as commitments to develop in enforceable form over many years the rules, ordinances, and other implementation mechanisms necessary for the success of the plan.

EPA intends to approve these state and local SIP commitments, at least for the purposes of making them federally enforceable, as soon as they are adopted and submitted in legally binding form, and assuming that they otherwise comply with other Federal requirements. EPA does not anticipate that the state and local agencies will be able to submit most control measures in fully developed and fully approvable form for many years.

Therefore, the proposed AQMP is not expected to meet initially all of EPA's existing requirements for proper adoption of measures, including provisions for legal authority, binding commitments, specificity of limitations, funding, scheduling, approval of appropriate governmental agencies, and monitoring. As such, under EPA's current policies, full and complete approval of the entire pending SIP in lieu of a FIP must be considered a romote possibility.

If, however, the State were to submit a complete, legally adopted plan by the time EPA were to promulgate its FIP, then EPA could find that the SIP measures are sufficient to meet Clean Air Act requirements without additional Federal measures. EPA would then be able to avoid any FIP action and approve the State plan in full, under at least one of the legal theories described in the test of today's notice (see footnotes 20 and 21 and accompanying text).

C. Discussion of the Possibility of Other Types of Federal Measures

In addition to the relatively simple prohibitory FIP measures discussed above, or the list of measures in the local plan, EPA could promulgate in the FIP, at least in theory, other types of federal initiatives that might expedite emission reduction progress in the Basin. These measures would consist of

rules that would supplement the existing and proposed state and local regulations with particular measures applying specific control technology requirements or embodying other available regulatory approaches.

As explained elsewhere in this notice, EPA generally believes that the responsibility for selecting and implementing air pollution control measures rests principally with state and local agencies rather than with EPA. In addition, this notice also discusses the possibility that EPA may lack the authority and resources to promulgate and enforce many types of regulations in a South Coast FIP, particularly those rules that would mandate substantial economic and social change. EPA considers most conventional FIP control approaches to be difficult to implement under a FIP, even assuming federal resources and authority sufficient for enforcement of regulations that require the compliance of thousands of sources or millions of residents. Such controls could also be expected to attract state and local opposition, rather than to enlist that level of support that is a prerequisite to successful implementation. However, we discuss below certain areas where EPA believes a limited active supplemental federal role is or may be possible and appropriate.

1. Currently Planned Federal Measures

EPA proposed to impose nationally two VOC control measures See 52 FR 31162; 52 FR 31,274; (August 19, 1987): (1) Control of refueling emissions through onboard vehicle control systems for gasoline fueled light-duty vehicles and trucks and heavy-duty trucks; and (2) volatility regulations for gasoline and alcohol blends. Because of the current South Coast regulation imposing Stage II refueling controls at service stations, the first of these proposed national promulgations would not be expected to provide significant emissions reductions within the Basin. EPA's proposed restrictions on gasoline volatility would contribute emission reductions beyond those identified in the South Coast plan, and would therefore expedite progress in reducing ozone concentrations in the Basin.[1]

[1] The most common measure of fuel volatility is the Reid Vapor Pressure (RVP). RVP is a measure of the tendency of gasoline to evaporate at 100 degrees Fahrenheit. As RVP increases, evaporative hydrocarbon emissions from gasoline related sources, i.e., motor vehicles and the gasoline transportation and distribution system, increase.

California State law currently limits the RVP of gasoline in the South Coast Basin to 9 pounds square inch (psi) for the seven-month period, April 1 through October 31. EPA has proposed national standards for RVP that would limit fuel for the period May 16 through September 15 to the following levels: 7.8 psi in Orange County and western Los Angles County, and 7.0 psi in Riverside County, San Bernardino County, and eastern Los Angeles County (see 52 FR 31274 and 31315, August 19, 1987). The draft South Coast plan includes a measure to tighten the State standard to 8.0 psi. In the year 2000, this would amount to reductions of 9.6 tons per day of VOC, 16.5 tons per day of CO, and 7.4 tons per day of NO_x. The proposed plan also encourages EPA to work with the FAA to demonstrate and evaluate the potential for methanol-jet fuel use. The plan estimates that significant additional reductions could result from a requirement for methanol fuel.

2. Other Federal Measures

The South Coast plan assigns to either EPA or other federal agencies the following measures, because of legal constraints on the authority of state or local governments. EPA solicits comment as to whether these or other measures should be included in a FIP or another federal promulgation in the case of other federal agencies:

a. *Lower Emissions Standards for Aircraft Engines.* The proposed South Coast plan lists as one of the Tier I control measures lower emission standards for VOC and NO_x from new jet aircraft engines. The plan's control measure (I–2) projects a 50 percent reduction in emissions for all pollutants.

Under Section 231 of the Clean Air Act EPA has authority to promulgate such standards, but under Section 233 state and local governments are prohibited from adopting standards of their own, although they may adopt and enforce EPA's standards. Because aircraft must circulate freely throughout the U.S. to serve their purpose, nationwide regulation would be needed to achieve reductions in the basin.

At present, EPA standards for aircraft engines apply only to commercial jet engines. The standards exclude non-commercial aircraft and all piston-driven engines. Engines smaller than a certain size are also excluded. There are EPA standards for VOC, smoke, and fuel venting, but not for NO_x or CO. The VOC standards apply only for engines manufactured after 1983, although EPA has statutory authority to require retrofit of engines manufactured previously. However, smoke standards apply to all in-use commercial jet engines, regardless of age, and the technology used, for smoke control on pre-1983 engines provides some degree of VOC control. The present standards were established by a rulemaking process that spanned eleven years, ending in 1984. The draft plan in effect proposes that these current exclusions be removed, and that more stringent standards for newly certified engines be adopted.

Some degree of NO_x control, more stringent VOC control, retrofit of 1983 and older engines, controls on smaller engines, and controls on some non-commercial jet engines may be technologically feasible with adequate lead time for development, certification, production, and installation. However, the previous rulemaking process surfaced several concerns about safety, costs, industry disruption, and unintentional disincentives for technological process that led EPA to adopt the standards as they now exist. The cost and favorable emission reduction estimates contained in the draft plan appear to be based largely on EPA analyses from about 1978, and apparently have not been adjusted for inflation and aircraft fleet mix and usage changes since then. EPA's experience from having established the current standards in the 1970's is that adoption of standards for jet engines is a process that requires much more time than for most stationary sources or for motor vehicles. The time frame for implementation of new standards would most likely extend beyond five years, the typical period for Tier I control measure implementation. Thus, new standards most likely would not play a role in a five-year FIP.

b. *Outer Continental Shelf (OCS) Controls.* It may be possible to assist attainment in the South Coast basin by tightening federal controls on OCS emissions sources (primarily, petroleum exploration and development), or by negotiating agreements between the Department of Interior and state or local agencies to allow for partial state or local regulation of OCS sources. The amount of ozone or ozone precursors affecting the South Coast basin from OCS emissions is difficult to forecast. It is heavily dependent upon the scale, location, and form of future petroleum development, as well as the type of emissions control applied.

3. Potential Federal Measures Not Included in South Coast Draft Plan

Lastly, there are a few potential measures that are not included in the draft South Coast Plan. In theory, these measures could be in a FIP if they are not included in the final South Coast plan. EPA solicits comment from the public as to whether any of the following measures should be included in the FIP. As stated above, EPA continues to feel that the state and local agencies are the appropriate level of government for selection and implementation of these potential measures.

a. *Wintertime Oxygenated Gasoline Blend Program.* The use of oxygenated gasoline blends to reduce the CO emissions from motor vehicles is a recent development in air pollution control strategies. The use of these fuels during the CO season (winter months) has been mandated for the Denver nonattainment area, and more recently, for the Phoenix and Tucson nonattainment areas. Oxygenated fuels reduce CO emissions because the air-to-fuel ratio is made leaner, thus providing more oxygen which results in more complete combustion.

Oxygenated blends are produced by adding an oxygenate in the form of aliphatic alcohols and/or ethers to gasoline. Blends currently on the market include methyl-tertiary-butyl-ether (MTBE) blends, ethanol ("gasohol") blends, and methanol/co-solvent blends.

All alcohol-based oxygenates affect the volatility of the gasoline, i.e., its tendency to evaporate at various temperatures. Unless completely offset, these volatility changes may increase a vehicle's evaporative hydrocarbon emissions (i.e., fuel which evaporates and escapes to the air before it is burned in the engine). The use of oxygenated blends could increase hydrocarbon emissins from motor vehicles and possibly interfere with the attainment of the ozone standard in the South Coast basin during those time periods when the ozone and CO seasons overlap. Additionally, the use of oxygenated fuels results in increased NO_x emissions (less than 10 percent) which could adversely affect the attainment of the NO_2 standard and the PM–10 standard due to secondary aerosol formation.

EPA requests comments on the following:

(1) whether the promulgation of a wintertime oxygenated blends program is an appropriate CO control strategy for the South Coast basin given the impact the program might have on other pollutants;

(2) if an oxygenated fuel blends program is promulgated, whether all blends should be subject to sufficiently stringent Reid Vapor Pressure (see discussion above) so that there is no increase in hydrocarbon emissions due to the use of these blends;

(3) whether an oxygenated blends program will impact the introduction into the basin of alternatively fueled vehicles capable of using, for example, a fuel consisting of at least 85 percent methanol, compressed natural gas or liquid petroleum gas; and (4) whether an oxygenated fuels program would be compatible with the draft plan's proposal to require electrification of most motor vehicles in the basin by the year 2007.

b. *Enhanced Inspection and Maintenance Program.* California's current Inspection and Maintenance (I/M) program requires that gasoline-fueled motor vehicles be subjected to a tailpipe emissions test for hydrocarbons (HC) and carbon monoxide (CO) in an idle or idle and 2500 rpm (1980 and newer model year vehicles) mode and a tampering inspection biennially. Vehicles twenty years of age or newer and up to 8500 pounds gross vehicle weight are included in the program. Vehicles are tested at independently run authorized stations. Vehicles receive waivers if they fail the emissions test but cannot be repaired to the standards for $50 or less. Heavy duty gasoline vehicles are scheduled to be included in the program beginning in October 1989.

In September 1988, the Governor of California signed legislation (SB 1997, Presley) amending the repair cost ceiling to between $50 for 1971 and older model year vehicles up to $300 for 1990 and newer vehicles, effective January 1, 1990. The new law has the following additional provisions: 1966 and newer vehicles will be subject to the program; new, more sophisticated exhaust gas analyzers must be in place no later than January 1, 1992; and local air pollution control districts may request NO_x testing which might be implemented by means of loaded mode testing.

In order to obtain the maximum benefit from the I/M program, EPA might promulgate an enhanced I/M program which could require annual inspection of all 1966 and newer gasoline fueled vehicles. Other potential enhancements could include: (1) Inspections conducted at centralized facilities; (2) emissions testing of vehicles in a loaded mode as well as in the idle mode condition; and (3) measurements of NO_x emissions as well as HC and CO emissions. Also all vehicles could be required to be repaired to the standards, *i.e.*, there would be no limit on the amount the motorist might have to spend to bring the vehicles into compliance with the standards.

Any centralized inspection facilities would be run by an independent contractor or an agency under contract to EPA. EPA would maintain oversight over the program. EPA would hope that the program would continue to be enforced by registration through the California Department of Motor Vehicles. Although EPA may have the authority to assess fees for such a program, any monies generated would go directly into the U.S. Treasury and would require a Congressional appropriation to be returned to a federally promulgated I/M program.

c. *New Source Review (NSR) Program.* While the proposed South Coast plan includes a new source review measure (F–8) tightening the existing NSR requirements for the permitting of new or modified emissions sources, it is not clear that the SCAQMD now contemplates, or will ultimately embody, NSR provisions comparable to the two discussed below.

i. *Prohibition on the Use of Shutdown Emission Reduction Credits.* Relatively unmitigated minor source growth and the use of banked emissions credits to offset stationary source growth in the South Coast severely restrict or eliminate potential NSR contribution to achieving air quality goals. While control technologies have gotten increasingly effective at reducing emissions from permitted sources, the use of certain types of offsets, often from shutdowns many years past, has neutralized possible air quality gains. The SCAQMD and Region 9 agree that the current federal construction ban on major new or modified sources will have a negligible impact on the number and types of sources receiving permits in the South Coast Basin.[2] The SCAQMD thresholds for the aplication of BACT/LAER and offsetting are already significantly below federal levels and affect a large proportion of sources within the basin. On the other hand, applications for new or modified sources with emissions above the federal construction ban levels are extremely rare.

EPA could promulgate an NSR rule for the basin using the existing South coast offset threshold levels but prohibiting for use as an offset or in the determination of net emission increase all Emission Reduction Credits (ERC's) derived from shutdowns prior to 1985. Thereafter, credits from shutdowns would be available for use as ERC's (to the extent not otherwise disallowed by federal NSR requirements) but only within a three-year period following the actual shutdown. In addition, ERC's would be available from the application of innovative or excess controls. These ERC's would not be subject to the three-year restriction on use.

EPA's promulgation could also expedite progress toward attainment by discounting all ERC's derived from shutdowns. The discount could provide that the calculation of shutdown credits assume that the source were controlled to a level equivalent to the best available retrofit control technology (BARCT), determined as of the date of permit application for the source intending to use the credit.

ii. *Penalty for Failure to Obtain an NSR Permit.* Sources constructing and operating in the basin without a permit may be considered to be emitting the equivalent of uncontrolled and/or unmitigated air pollution. Many permit applications in the SCAQMD backlog are for facilities that were constructed without a permit.

EPA could promulgate a penalty for failure to apply for an NSR permit. The penalty should be substantial enough to act as a deterrent to sidestepping the regulations.

d. *Conformity Program.* Section 176(c) of the Clean Air Act prohibits federal agencies from taking actions that do not conform to approved SIPs, and prohibits metropolitan planning organizations, such as SCAG, from approving such actions. Strong conformity provisions in the South Coast would ensure that federally funded and approved projects do not lead to further degradation of the Basin's air quality.

The 1982 South Coast SIP includes conformity requirements. Conformity provisions are also included in the draft South Coast plan. SCAG has also formed a conformity working group, which includes EPA, to refine these conformity provisions. The FIP would address any deficiencies that remain after agency revision.

EPA will review the South Coast Plan according to, and base any needed FIP requirements on, previously published notices addressing conformity: 45 FR 21590 (April 1, 1980); 46 FR 7182 (January 22, 1981); and 52 FR 45055 (November 24, 1987). The elements needed for a fully effective conformity program include: (a) Conformity review procedures, (b) growth projections and a disaggregation process, (c) estimates of emissions for major federal projects, (d) conformity review criteria (45 FR 21590), (e) specification of information that must be provided for conformity determinations (growth, emissions, TCM consistency, modeling) and, (f) requirements for a finding of non-conformity if projects do not satisfy the review criteria or insufficient information is provided.

D. Comparison of Five-year and Longer-Term FIPS

How would the impact of the five-year FIP compare with that of the South Coast twenty-year plan? First, both plans envision roughly the same reductions, one within five, the other within 20 years.

The South Coast's proposed plan, however, pursues a technology forcing strategy in order to establish clean alternatives to existing transportation, industrial, commercial, and domestic fuels, equipment, materials, and activities. The South Coast plan avoids much of the sudden and extreme social and economic dislocations that are unavoidable in a five-year attainment period, by allowing time for the development and practical application of the technologies that are required or encouraged by the proposed plan. These technologies include, most notably, clean fuels or engines for mobile sources (with electrification of most surface vehicles); nonreactive industrial, commercial, and domestic solvents; and further stringent controls for a viarety of stationary and area sources of VOC or NO_x. In addition, the South Coast plan seeks to minimize the technological burden borne by the transportation sector by providing a comprehensive variety of transportation and land use control measures to reduce the

[2] The Clean Air Act requires EPA to enforce a ban on construction of major stationary sources and major modifications, following disapproval of a nonattainment area plan (see discussion above on EPA's disapproval of the South Coast SIP for ozone and CO). The construction ban regulations apply only to new sources with the potential to emit 100 tons per year or more of the relevant pollutant or pollutant precursor, and to modifications with a net emissions increase of 100 tons per year for CO and 40 tons per year of VOC. See 40 CFR 52.24.

existing dependency on private vehicle use, and to reduce future needs for additional private vehicle trips to accommodate growth in population and employment. Most of these transportation and land use measures (such as provisions for jobs-housing balance or construction of new mass transit facilities) necessarily involve lead times of at least five years and, in some cases, more than 15 years, for full implementation.

1. State and Local Expertise

EPA has not yet fully analyzed all features of the South Coast AQMP, and does not yet know if it is adequate to provide for attainment, or whether it can be fully implemented within its projected timeframe. But the SCAQMD has consistently been recognized as one of the nation's most comprehensive, progressive, and effective air quality control agencies, particularly with respect to the development, application and refinement of effective controls of ozone precursors, VOC and NO_x. Their effort on the proposed AQMP, in conjunction with SCAG's, includes identifying and scheduling for adoption every feasible stationary source, transportation, and mobile source control measure. The plan has scheduled pilot studies, legislative needs, funding commitments, public awareness programs, and implementation time frames.

EPA's involvement in the South Coast planning effort has primarily been to oversee and provide technical assistance to the state and local agencies. EPA has limited expertise in the specific approaches that would be used to control emissions in the Basin. Much of EPA's regulatory approach to the control of emissions continues to be derived from the knowledge and experience of the SCAQMD and the ARB in the control of stationary, area, and mobile sources.

EPA would be unable to implement many of the measures identified in the South Coast draft plan. Many control strategies require commitments on the local level and must be initiated by local agencies. These include land use measures, incentive based transportation control measures (TCMs), and long-range transit planning. Because of the nature of these control measures, and the fact that there are over 150 local jurisdictions in the basin, local government coordination is essential.

EPA believes that air quality benefits are best achieved through a federal partnership with the state and local planning agencies to ensure that all needed control measures are adopted, monitored, and enforced primarily at the state and local levels. The SCAQMD, SCAG, ARB, and EPA have been working together successfully to refine control strategies included in the draft plan to generate local support for controversial measures. Federal preemption of the planning process, at the culmination of a uniquely ambitious and resource intensive planning process, could jeopardize the extensive efforts and progress of the state and local agencies and jurisdictions.

2. Federal Versus State/Local Resource Allocation

The staff and budgets of the local and state agencies responsible for solving the air pollution problems in the Basin far exceed currently budgeted federal sources. The staff levels in the fiscal year 1989 budgets of the SCAQMD and the ARB are 900 and 670, respectively; this combined work force is more than 22 times the staff size (70) of the Air Management Division (AMD) in the EPA Region 9 office in San Francisco. The Region 9 office is responsible for directly implementing or overseeing the implementation of the Clean Air Act throughout the states of California, Arizona, Nevada, Hawaii, and the Pacific Islands. The approximate fiscal year 1989 budgets of the three agencies are similarly proportioned:

SCAQMD	$75,000,000
ARB	$58,000,000
EPA Region 9 (AMD)	$3,500,000

The imbalance of federal and state/local air pollution planning resources is still more extreme when the staff and budget of SCAG are considered. SCAG, which is the largest of the approximately 700 Councils of Government in the country, shares responsibility with the SCAQMD for preparation of the local air pollution control plan.

Appendix B: Technical Issues

I. Developing the Federal Implementation Plan

This Appendix is intended to provide a better understanding of the technical issues associated with the FIP process. The process of developing an implementation plan is similar whether the plan is to be promulgated by the state, as a SIP, or by the federal government, as a FIP. Typically, states have been given only nine months to prepare and submit to EPA a fully adopted and approvable plan. During this time, EPA must complete appropriate guidance, and the state must gather information, conduct an analysis of the problem, select appropriate control measures, and write and adopt a plan. Because the development of post-1987 plans is expected to be more difficult than previous efforts, EPA, in its proposed policy to address continued nonattainment of the ozone and CO NAAQS, proposed to allow states two years to develop post-1987 ozone and CO SIPs.

In order to produce a technically sound plan, the following types of activities are required:

a. development of data bases (inventories)
b. determination of emission reduction requirements
c. selection of control measures
d. preparation of the FIP or SIP
e. review and adoption of the plan.

A. Development of Data Bases

1. *Current Emission Inventory.* An emission inventory of air pollutants and their sources is essential in identifying major contributors of air contaminants. Sources of emissions are classified as either stationary or mobile sources. Stationary sources are further divided into point and area sources.

The most recent comprehensive inventory for the South Coast is for the base year 1983. For the purposes of the South Coast draft plan, the 1983 inventory was updated to create a 1985 base year emission inventory. The next comprehensive update is expected in 1990 for the base year 1987.

A technical evaluation of the South Coast draft plan inventory and projections has not yet been performed. However, some preliminary conclusions can be drawn about the inventory. Stationary VOC sources in the South Coast include surface coating operations, consumer use products, petroleum processing, and industrial/manufacturing processes. The total VOC contribution from stationary point and area sources comprises 48 percent of the inventory. For NO_x, stationary point and area sources contribute 28 percent of the inventory. The major stationary NO_x sources include electric utilities, petroleum refineries, and manufacturing/industrial process. Stationary sources contribute only 4 percent to the CO inventory and are mostly fuel combustion sources.

Mobile source emissions are attributed to on-road vehicles (automobiles; light, medium, and heavy duty trucks; buses; and motorcycles) and other mobile sources (airplanes, ships, trains, and mobile utility equipment). On-road vehicles account for 46 percent of the VOC emissions, 59 percent of the NO_x emissions, and 87 percent of the CO emissions in the South Coast.

2. *Forecasted Emission Inventories.* The 1985 base year inventory has been projected to create the baseline inventory for 2000 and 2010. The projected inventories take into account existing control strategies presently in the South Coast, including the California and the Federal Motor Vehicle Control Programs (CMVCP) and (FMVCP), and anticipated stationary and mobile source growth.

Due to existing efforts of local, state and federal air pollution control agencies, per source emissions of VOC, CO, and NO_x in the South Coast are declining. The SCAQMD estimates that per source emissions will continue to decline in the near future because of the effect of existing controls on air pollution sources. The major reason for this steady decrease in per source emissions is the expected turnover of vehicles in use due to the implementation of the CMVCP and the FMVCP. As older cars, which have higher emissions, are replaced by newer, cleaner burning cars, the associated emissions have decreased.

As noted above, however, the South Coast Basin is growing in population at a remarkable rate. If the excess cumulative emissions caused by this growth are not offset or mitigated, the South Coast will quickly begin to experience a net increase in emissions throughout the basin.

3. *FIP Emission Inventory.* The FIP emission inventory would give an indication of what sources would be able to provide additional reductions and would provide an overall baseline against which the adequacy of the control strategy is judged. The FIP emission inventory would include VOC, NO_x, and CO.

EPA would need to establish a base year inventory; a projected inventory for future years with no new control measures; and a series of projected control strategy inventories. This would involve the identification of sources; data collection on stationary source production levels;

estimation of traffic volumes; a calculation of emissions for each mobile and stationary source category; and a determination of growth factors for each source or source category. This effect would require extensive cooperation from the SCAQMD, SCAG, ARB, and the California Department of Transportation (Caltrans) since these agencies are typically the source for emissions data.

For the purposes of the greater than five year plan, EPA would use a 1987 base year emission inventory. This emission inventory is already in preparation, and a final draft could be ready as soon as December 1989. Due to limited time, the five-year FIP would use the 1983 inventory.

To be consistent with EPA's proposed post-1987 policy, some revisions to the South Coast's 1987 base year inventory are necessary. The inventory would have to be revised to include all sources which emit more than 10 tons per year. Also, the inventory area would need to be expanded to include sources within a 25 mile boundary of the Basin and additional source categories such as treatment, storage, and disposal facilities of hazardous materials and publicly owned water and sewage treatment facilities.

The projected inventory would take into account existing control measures and expected growth in the South Coast. To be consistent with the proposed post-1987 policy, EPA will project the inventory over five years (1992). The inventories would then be gridded in preparation as input into the Urban Airshed Model (see discussion below).

The quantified emission reductions from the federal control strategies must be allocated to each of the emission inventory categories to produce a series of projected control strategy inventories. Initially, EPA would project the emission reductions over the first five years, then update every three years. To remain consistent with the proposed post-1987 policy, an 80 percent control effectiveness factor would apply to the inventory control categories.

The proposed post-1987 ozone/CO policy give states one year to produce a base year emission inventory. EPA's requirements under a FIP might range between having to do an entire inventory to only having to do a part, depending upon the selection of the base year and the status of any work already done by the state and local agencies. EPA would have to rely heavily on contractor assistance for all phases of inventory preparation.

B. Determination of Emission Reduction Requirements

1. *Ozone Modeling.* There are two modeling techniques recognized by EPA for ozone evaluations and demonstrations of attainment: the Empirical Kinetics Modeling Approach (EKMA) and the Urban Airshed Model (UAM). UAM is the preferred model for ozone control strategy evaluations, but is more complex and expensive to run than EKMA.

EKMA simulates the full range of atmospheric chemical reactions involved in ozone formation, but employs a very simplistic treatment of transport, mixing, and dispersion of the reacting pollutant species. The advantages of EKMA are: (1) That it requires only a limited amount of aerometric input data; (2) it does not require extensive computer resources; and (3) it can provide a fixed VOC emission reduction target necessary to reach attainment. It cannot, on the other hand, be used to evaluate the impact of the spatial variability of emissions, the spatial distribution of ozone, or multi-day effects during ozone episodes.

The UAM is a three dimensional grid-based model which utilizes the same set of chemical reactions as EKMA, but employs a much more rigorous treatment of transport and dispersion. The primary disadvantage to using this model is that it is more costly. It requires detailed, three dimensional data, considerable effort to assemble and input the aerometric and emissions data, and extensive computer resources.

The aerometric and emissions database has been assembled and UAM analyses have been performed by the SCAQMD. Therefore, EPA intends to base its control strategy and attainment analyses on UAM results. EPA would resort to an EKMA analysis only if, by Court order, EPA must promulgate the FIP in a very short time frame, or as discussed below, the SCAQMD modeling analyses or database are found unusable.

Ideally, EPA would build upon the South Coast modeling efforts. If problems are discovered with the model or the data, EPA, or an EPA contractor, will work with the SCAQMD and/or conduct the modeling itself. If serious flaws are found in the SCAQMD's modeling analyses or input data, then EPA may resort to an EKMA analysis.

Two types of modeling analyses will be undertaken: sensitivity and control strategy. Sensitivity analyses will verify that the model is accurately depicting the physics and chemistry of the basin and will provide a rough approximation of the types and magnitudes of emission reduction necessary to attain the NAAQS. The control strategy analysis will be more specific in terms of what types of input parameter changes are analyzed. It is important to note that peak ozone concentrations will not react dramatically to individual control measures. The analysis will evaluate the impact on ozone concentrations of a large group of control measures, with a fairly large overall emission reduction associated with them.

Some of the specific types of analyses which would be performed are the following:

a. *Attainment Demonstration.* The primary analysis needed is the determination of the level of emission reduction necessary to attain the ozone standard. The suggested approach, as outlined by EPA, is to determine the level of VOC reductions, in the absence of NO_x reductions, necessary to reach the standard. Then, if the VOC to NO_x ratio in the nonattainment area is greater than 10 to 1, the effects of NO_x control on the maximum ozone concentrations will be evaluated to determine the overall level of VOC reductions necessary.

In the case of the South Coast Basin, PM–10 and NO_2 ambient levels are also in excess of the standard. The South Coast draft plan proposes major reductions in NO_x emissions as necessary particularly for attainment of the PM–10 standard. EPA would need to take into account the NO_x reductions required by the South Coast. Those reductions will affect ozone attainment, and will make the ozone attainment analyses more complex.

b. *Spatial Effects.* The initial precursor reduction targets will be based on an overall basin reduction level. When actual controls are implemented, some controls may only apply to certain geographic locations. If certain source types are only located in one area of the basin, controls applied to those sources may have different effects on the ozone concentrations than similar controls applied elsewhere in the Basin.

c. *Baseline Changes.* As population patterns shift within the basin, the spatial and temporal distribution of emissions may change, especially vehicle miles traveled (VMT) and associated emissions. Such changes could affect the attainment demonstration.

d. *Maintenance of the Standard.* The modeling must demonstrate maintenance as well as attainment of the NAAQS. Future year projected inventories will be used for this maintenance demonstration.

2. *Carbon Monoxide Modeling.* CO impacts occur on both an urban scale and a microscale. The overall buildup of pollutants on a large scale defines an urban scale impact, while high, but more transient, levels of pollutants near a roadway are considered microscale impacts. Most CO problems are the result of a combination of both types of impacts; however, the CO nonattainment problem in the South Coast basin primarily involves a large urban scale component. Therefore, an attainment demonstration for the basin will require urban scale modeling.

Although the UAM was developed primarily for ozone applications, it can also be used for evaluating relatively inert pollutants, such as CO. It has been successfully used for this purpose in Denver, Colorado, and Phoenix, Arizona. Because of the complex meteorology and disparate emission patterns in the South Coast basin, the model would be appropriate for use there as well.

At this time, only proportional rollback procedures have been used in the analysis of CO in the South Coast basin. Therefore, CO airshed modeling will require assembling an appropriate aerometric and emissions database. EPA intends to construct the CO FIP attainment demonstration based on the UAM unless time and resource contraints disallow its use. In that event, EPA's analysis must use rollback modeling.

C. Selection of Control Measures

Before being selected for inclusion in a plan, measures must be evaluated for their emission reduction potential, costs, technical and administrative feasibility, and social and political impacts.

The evaluation process is expected to take considerable time and resources, and will involve contractor assistance and the input of numerous outside agencies and affected industries. The evaluation of measures is normally performed by the state and local agencies; however, under a FIP, EPA would assume this responsibility.

The selection process is also typically handled by the state and local agencies, with little federal input aside from measures

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mandated by the Clean Air Act, such as inspection and maintenance (I/M) or Reasonably Available Control Technology. Again, under a FIP, EPA would have the legal responsibility for selecting measures which are sufficient to accomplish the goal for attaining and maintaining the standard in the required time period.

D. Preparation of the FIP

After all the data have been collected, analyses conducted, and measures selected, EPA would assemble the results into a usable form. This entire process would be documented and represented in the form of selected measures and regulations, and a description of how those measures will enable the standard to be attained and maintained. This is the draft implementation plan.

A major portion of the effort involved in preparing a plan would be the development of the regulations needed to implement those selected control measures which are in addition to measures currently approved. Regulations need to be technically defensible and legally enforceable. This will require considerable effort, expertise, and time, especially for measures which address less traditional source categories and controls.

E. Adoption of the Plan

The final state in the preparation of a plan is the process of public review, formal approval, and adoption or promulgation. The purpose of the adoption process is the same for a SIP and a FIP, that is, to provide all interested parties an opportunity to examine the control strategy chosen as well as the technical and legal basis for the strategy, and to make the plan a legally enforceable document. However, the process is somewhat different for a FIP because of the necessity to conform to federal procedural requirements. EPA would be required to publish a summary of the FIP's demonstration of attainment and draft control measures in the **Federal Register**, provide for a public comment period, and hold formal public hearings. A final **Federal Register** notice would contain the final control measures and responses to public comments. EPA regional offices are primarily responsible for drafting **Federal Register** notices, holding public hearings, and obtaining public comment.

II. Implementing a Plan

After a plan has been prepared and promulgated, it must be implemented. Implementation is an ongoing process of administering programs to achieve and maintain compliance with the control measures set forth in the plan. The following activities are encountered in the implementation of a plan:

A. Source Permitting, Testing, and Inspection
B. Enforcement
C. Effectiveness evaluation

The implementation phase is critical, as it, along with the quality of the planning effort, determines how effective the plan is. As in the case of plan preparation, the responsibility for implementing a FIP rests with EPA. While EPA cannot legally require another agency to implement FIP control measures, it would hope that state and local air agencies would want to be involved.

A. Source Permitting, Testing, and Inspection

The process of implementing the measures in a plan requires that the compliance status of the various stationary and mobile sources be determined, corrected when necessary, and maintained. Ideally, a FIP would build from the existing state rules which have been approved, adding federal measures where necessary but leaving the state or local measures in place. Implementation would then be shared between the state and local agencies and EPA. Compliance determination inspection could be a cooperative venture also; however, since sources subject to federal measures would be operating under federally issued permits, enforcement actions probably would be carried out at the federal level.

The task of determining compliance varies with the nature of the source. Stationary sources such as manufacturing facilities, industrial plants, and gasoline terminals require emissions testing and visual inspection of stack emission points, probable non-stack or fugitive emissions points, and production and control equipment. Mobile source measures require not only emission testing and visual inspection, as with an I/M program, but more non-traditional techniques as well, in order to gauge compliance with control measures such as reduced fuel volatility, oxygenated fuels, gasoline rationing, parking restrictions, and mandatory ridesharing.

B. Enforcement

Enforcement is the process of compelling sources to comply, generally through actual or threatened legal action. As previously mentioned, enforcement of federal measures would mean that EPA would have the responsibility for initiating action against sources operating out of compliance with those measures. While EPA routinely conducts enforcement activities against large emitters, these activities are limited. Under a FIP, EPA's enforcement role would expand significantly in the affected area.

C. Plan Tracking

Essential to the FIP process is a program to monitor how measures are being implemented and if emission reductions are occurring as scheduled and committee to assure attainment of the NAAQS. Reports on the plan's implementation status must be timely and made public. EPA could promulgate a plan provision for such a tracking program. This program would include emission quantification techniques, required resources, and time frames for completing the analysis. Quarterly reports would document current control measures development, adoption and implementation, and how they would provide the quantitative analysis necessary to document emission changes. Both quarterly and annual reports would be distributed to the public. EPA would rescind this measure if the SCAQMD and SCAG adopt such a provision in their SIP and show evidence of sufficient staff and financial resources for implementation.

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